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Class 106. No 11

Presented by
Joseph Leidy, Jr., M.D.





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Wm. H. ...

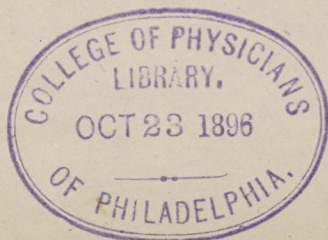
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NOTES

taken from
Gibson's lectures on Surgery.

Delivered in the University of Pennsylvania, by
Wm Gibson, during the Winter of 1841-2.

by Joseph Leidy, 1841.



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Wounds.

Wounds may be divided into incised, punctured, penetrated, contused, lacerated, poisoned and gun-shot. These may be subdivided into wounds of the head, face, neck, thorax, abdomen and extremities.

An incised wound is made ~~by~~ a sharp cutting ^{instrument}, followed by a recession of the divided edges, owing partly to the size of the instrument, elasticity and contractility inherent by possessed by most living textures. More profuse bleeding is the consequence of this kind of wound than any other.

Punctured wounds are made by sharp pointed instruments, ~~being very common~~, as needles, thorns, &c.

Penetrating wounds differ from the punctured, being made by larger instruments, ~~this~~ creating larger wounds; they differ also in relation to hemorrhage: punctured wounds never bleeding at all; but the penetrating wounds bleeding profusely, often by the division of important arteries, &c. The symptoms and treatment are different.

Contused wounds, the injury here is generally beneath the skin, it not being ruptured, it is sometimes however deepened. The smaller vessels are ruptured in a contused part, blood is poured out into the cellular tissue producing discoloration of the skin the skin turns at first black changing to a blue, then green, &c. This change of colour is produced by absorption slowly continued of the effused blood.

Lacerated wounds are produced by irregular or obtuse bodies, which tear the part, making ragged wounds. There is less hemorrhage attending this kind of wounds than any other; the reason of this is, the nerves are injured to a considerable extent along the part, consequently the arteries are paralyzed which of course keep the ~~int~~ from contracting to propel the blood; the blood therefore coagulates.

Poisoned wounds are produced by the bite of rabid animals, insects, reptiles, also poisonous applications, &c.

Gunshot wounds, under this head are included, all wounds produced by means of fire-arms, pieces of shell, &c.

Wounds of the head, those of the scalp are not dangerous generally; but when the brain or its delicate membranes are touched the wound is generally very dangerous.

In wounds of the face nerves may be divided of importance producing paralysis of the part.

In wounds of the neck the trachea may be included, important arteries and also important nerves may be divided; as for instance, the pneumo-gastric nerve being divided produces paralysis of the stomach, also affecting the respiration, &c.

In wounds of the chest the heart and lungs may be endangered. If both lungs be wounded the danger is considerable, on account of respiration being greatly affected; if one lung be wounded the danger is rather inconsiderable as the respiration may be carried on by the sound lung.

In the abdomen important viscera may be wounded thereby impairing their functions. Wounds of the stomach are dangerous; those of the duodenum more so, on account of its immediate importance in nutrition; those of the intestines are not so dangerous; wounds of the kidneys, or ureters are very dangerous, because of the infiltration of urine into the cavity of the abdomen producing inflammation of the peritoneum. In the wounds of the chest or abdomen important blood vessels may be wounded. Wounds of the extremities, differ in being dangerous according to the part, size of the wound, &c. The resulting consequences of wounds differ according to the age, constitution and parts injured.

Incised Wounds, &c.


A wound after bleeding a length of time stops spontaneously; this is produced by choking of the mouth, or mouths of the vessel, or vessels internally and externally by the coagulated blood; by the contraction and retraction of the vessels; and the effusion of coagulating lymph. The blood is partly absorbed while the lymph is effused. The actual cautery was anciently resorted to, to stop hemorrhage, but is little used at the present time. This however the only thing usefull in hospital gangrene, which hapily is a disease little known in this country. Fungi very often can only be destroyed or depressed by the actual cautery. There are some persons who seem to be disposed to bleeding, bleeding profusely from a slight scratch or cut; cautery in such cases is the most usefull thing.

Agaic, &c were once used to suppress hemorrhage. Sponge was also much used, and is very useful in some cases; it often stops hemorrhage when pressed into a bleeding cavity, swelling out by imbibing the moisture, which presses against the mouths of the bleeding vessels, therefore stopping hemorrhage. When the sponge is pressed into a cavity a string should be attached to it, so that it may be withdrawn; it should not be allowed to be in too long; not more than 2 or 3 days; for if it be left in longer it often happens that granulations shoot around, and into it, thus retaining it; it cannot ^{thus} be taken out without breaking up the granulations.


The potential cautery formerly used, is not used ^{much} at present. It was a button of Sulph: Eupri, made by putting the sulph: eipper in a piece of rag, thus &c. This was applied to stop hemorrhage. It will be found serviceable in the bleeding from the cells of the penis, from the glans, caused by chancre.


Styptics formerly much used, are not used at present.

Nitrate of silver makes a good scale over a wound.


Pressure is useful in arresting hemorrhage when properly applied. The graduated compress, made by sewing smaller pieces of linen upon one another, thus,  The apex of this compress is laid on the wound, and it is then pressed by a roller. There is very often, ^{longer} in making bandages and compresses to

tight, as it may stop the circulation in the part affected, swelling will be produced, and if the cause be not removed inflammation and ultimately mortification may ensue.


Sometimes the hemorrhage is internal; the vessel lying very deep it cannot be got at, the blood separates the muscles from one another, &c. In such a case pressure may be made in the following way: a compress being placed over the bleeding artery, another one placed in any situation in a line with the other, over  these a strip of copper or other metal is placed forming a bridge between the two compresses; over these a roller may be applied, or a tourniquet, without stopping the circulation in the part, as it may still go on through the bridges formed.

A tourniquet should have a wide frame, the strap should be strong, the points of the buckle should not be sharp, so as to cut the strap. When a tourniquet is not at hand, a handkerchief may be used instead of one, by folding it diagonally tying a knot in the middle to act as a compress to be placed over the bleeding artery, it is then turned around the limb, and the two ends tied together, a stick is then to be passed through it, and it may be twisted to the required degree of pressure. — .

In tying bleeding vessels some of them sometimes cannot be seen, or escape notice; by relaxing the tourniquet, they may be seen by the blood spouting.

In many places the tourniquet cannot be applied; as the neck, axilla, groin, &c. pressure in these cases may be made till the vessel is tied, by folding strips of linen through and around the ring extremity of a dove key; the pressure is then to be applied above the rupture of the vessel, as pressure applied above the clavicle when the axillary artery is wounded, &c. .

Pressure should only be applied temporarily.

Arteries may be taken up with the tenaculum; it should not be so sharp as to cut the artery. Physic's forceps for deep seated arteries is useful. Forceps are also used in taking up arteries, those with a slide are useful when no assistant is at hand, as is also a tenaculum with a leaden handle to drag out the arteries; Liston's forceps are better than any others.  Arteries may be stopped from bleeding, by dragging the artery out with the forceps, twisting it, thus breaking the internal coats, which are to be then thrust into the outer coat; but when the artery is so near as to be seen, it is better to ligate it.

Ligatures— are commonly made of thread, silk, leather, or metal. Round ligatures are superior to any other shaped ligatures. Respecting the size of the ligature, much depends on the size and state of the artery, whether in health or not at the time.

When the arteries are studded with calcareous, or ossific points or are otherwise diseased a large ligature is the best. This is a common thing in old age, it is therefore advisable to use a large ligature in most aged persons. Animal ligatures may and should only be used for diseased arteries. In health a small round

ligature is the best. The thread ligature is considered the best.

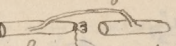
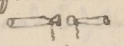
Care should be taken in ligating an artery not to include a nerve, or anything like muscle, cellular tissue, &c. if a nerve be included it will give rise to violent symptoms, the nerve being indestructible; the extremity of the nerve (meaning here in amputation) undergoes a change, a bulb or buttonlike knob is formed which is extremely painful. If this should happen the actual cautery, or caustic only will destroy it. When the nerve is included it may often be known by it causing the patient to cry out with pain, and by occasional twitches in the part above. If any other parts be included the internal coats of the artery will not be divided in that place. The middle and internal coats of an artery are and should be divided by the ligature leaving the external coat entire. The ligature must not be too large or it will not cut the internal coats; the smaller and rounder the ligature is the better; but in diseased arteries it must be large.

The ligature should be tied $\frac{1}{8}$ of an inch from the cut extremity of the large arteries, but the distance should be less in the small arteries. 2 or 3 knots should be tied in a ligature.

When a ligature is applied to an artery, the blood coagulates up the vessel till it arrives to the first anastomosing branch where it stops; this coagulated blood is afterwards absorbed, that part of the vessel becomes a solid cord, which in a few weeks commences also to be absorbed up to the anastomosing branch within $\frac{1}{8}$ of an inch. When a ligature cuts the internal coats, coagulating lymph is thrown out by the vasa vasorum blocking the extremity up, after it is grown tight the ligature ulcerates the external coat and comes out in a loop. It takes generally from 1 to 2 weeks for the ligature to come away. If the ligature does not come away in the required time, it should not be pulled or suddenly jerked, as it may come away, and secondary hemorrhage arise. A good plan to loosen a ligature is to tie another one to the one hanging out of the wound, fastening the other extremity to some part of the body by a strip of adhesive plaster, a compress being placed under the ligature like the bridge of a violin, the gradual strain thus produced will bring it away in a few hours. Leadern ligatures may be used to a good purpose, lymph is thrown out the leadern ligature is covered, and always remains without any bad effects resulting.

When a main trunk of an artery is thus obstructed by a ligature the circulation is still carried on in the part through the capillary vessels, the blood by being pushed through the small vessels in this way enlarge and soon carry as much blood to the part as the main trunk originally did, even large artery has its corresponding artery or arteries. It sometimes happens that 3 or 4 days after vessels have been ligated blood is seen pouring from the wound, and on looking for the source, it is found to proceed from the lower cut extremity of the artery. This



is caused by one of the small vessels shooting from the main trunk and joining with the portion below, thus,  It is therefore advisable to put a ligature on both cut extremities above and below, thus  in vascular and muscular patients. The aorta may be obstructed slowly without any serious consequences, as an example of the commencement of this paragraph.

In ligating vessels one end of the ligatures should be cut off within $\frac{1}{4}$ of an inch, leaving the other end or ends hang out, each end hanging out should have a separate situation.

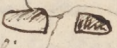
The dirt which is often kneaded in the wound should be washed away. Extraneous matter should come out, those pieces only should be taken out with an instrument as can be seen, if any more remain the whole should be covered with an emollient poultice to produce suppuration which will cause the greater part of the foreign matter to be expelled.


If an incised wound contain no foreign matter it may be healed by union by the first intention.

In warming adhesive straps; it may be done by a bottle of hot water. The hair should be shaved off. An interspace of an inch to half an inch should be left between the adhesive straps; the ends of the ligatures might hang out one between each pair of straps. Over these a piece of patent lint or thin linen covered with simple cerate may be placed, or this may be placed some fine tow with the small dirt taken out, or some scraped lint; and over the whole a roller may be wound. The roller should be washed to take of the glazing; Irregularities, and selvage taken off &c, the best rollers are made of middling coarse muslin, muslin being better than linen; the roller should not be too broad, it should be applied smoothly. The part should be elevated, horizontal, &c. according to the part affected. The next thing is to undress. Do not take the dressings off in a rough and hurried manner. The time of undressing depends on the size of the wound, and also the season of the year: in winter a wound may be dressed in 8 or 10 days; in summer 3 or 4 days. If the adhesive plaster sticks or dressings become matted, a poultice should be applied, or water to soften the parts before they are taken off; the straps should be taken off singly; the new straps being applied as the old ones are taken, in the same places as the old ones. In about a week the ligatures may be gently tried to see if they will come away, but if they offer the least resistance let them remain, and adopt Dr. Physick's plan of getting them away seen on the other page 6. Of course the largest ligatures, or those on the largest arteries must come away last. When all the ligatures come away it will be found that the wound has healed by the first intention except in the places where the ligatures come out, but these will afterwards heal in the same way. A wound generally should be dressed 3 or 4 times.

Erysipelatous inflammation is sometimes occasioned by the use of adhesive straps too long continued; if any thing of this kind is observed they should be laid aside, the place may be

rubbed with simple ointment, or if it does not agree glass plaster might be here used advantageously.

Sometimes a wound cannot be healed with adhesive straps, or they cannot be applied in some places, as the scrotum, lip, &c.: sutures may be employed, the interrupted are very good; called so because the stitches are placed interruptedly at from $\frac{1}{2}$ to 1 inch apart; it is applied from the inside of the lips of the wound to the outside, one ligature being used  armed with 2 needles; it should not be tied too tight, as the swelling which ensues may strain it.

The twisted suture is made generally of a silver pin with a moveable point, this is run through the two edges of the wound, the point being removed, a ligature is twisted around it in the form of a figure 8.  In case of emergency a common long needle may be used; after it is put in, the point should be broken off, or sealing wax put on it. In using this suture it is advisable always to commence by putting the first one at the open part of the wound, as in hair lip. The ligature should not be drawn so tight as to make the lips of the wound pucker. Stitches very often bring on erysipelatous inflammation, especially on the scalp; if the patient complains, or any thing he deserves, the dressings should be removed, and the stitches taken out, and the wound to be covered with an emollient poultice.

The continued and quilled sutures are not used at present, except on dead bodies. The blood should be cleaned from the wound, as it acts as dead, or foreign matter. After the blood stops flowing lymph is thrown out, retracts short into it, thus becoming organized.

Adhesive inflammation and union by the 1st intention are synonymous; they are explained just before this passage.

Lymph forms the nidus or bed of reunion, in wounds.

Whether inflammation is necessary to the production of coagulating lymph is a question which has been long contested; Dr. Gibbon thinks there must be more or less inflammation to produce the effusion of lymph.

Gun-shot Wounds.

Gun-shot wounds are those resulting from the explosion of gun-powder.

The wound depends on the size of the projectile, force, &c.

If the ball strikes with force and in a straight line it will generally pass through, making a smooth hole; the hole being smooth which the ball makes on entering, but on its exit lacerates the parts, making a larger wound. This is explained on the principles of the densities of media. If a ball be spent or is slow it is liable to shatter the parts. If a ball strike in an oblique manner, it very often goes completely around the body, just underneath the skin, which may be told by the red line following the course of the canal.

may be used. The ising.

The wound is contused where a ball enters but a lacerated wound where it makes its exit. A ball striking any yielding part is or will not be generally so much hurt as one more resistant. As far as the ball goes the parts are contused, but they are not burnt by the ball. There is therefore a dead tube formed, thus differing from a wound made by a sword, &c. It very often happens that a ball passes into some part of the body brushing against a large blood vessel, a portion of intestine, &c. The part thus brushed is generally deadened, which ulcerating & sloughing in 3 or 4 days secondary hemorrhage may arise; or if it be in an intestine artificial anus may result, &c. A dead tube

does not invariably follow a gun shot wound, made by a ball. The greater the velocity the projectile is sent the more contusion will result, while a ball passing very slow may produce none. Therefore there will be greater sloughing in a wound made by a swift projectile.

When a ball is flattened it may make an incised wound. A ball is sometimes cut in 2 by a bone with a sharp angle, if the ball be a spent one it very often shatters the bone. When a ball passes swiftly it sometimes enlodges in the substance of the bone, where ultimately a cyst will enclose it. It may always remain without any serious consequences resulting. A ball sometimes lodges in the compact structure of a muscle, lymph being thrown out, a cyst is formed around it, it may always thus retained without any harm resulting; but if it lodge in the cellular substance between the muscles, or in other parts of the body, by its gravity it will be constantly tending downwards, forming sinuses containing pus, which in course of time if the cause be not removed will kill the patient. The inflammation produced in consequence of the shattering of the thigh bone is more dangerous than that produced by the shattering of any other bone, those of the head hardly excepted.

A person is sometimes stunned by the blow of a ball, which may afterwards result in inflammation & mortification.

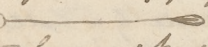
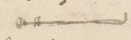
There is less pain produced in gun shot wounds than any other. The cause of this is, the power being so great, and so suddenly applied, the nerves are paralyzed & parts deadened, all so quickly that no sensation is transmitted to the sensorium. This might extend to contused and lacerated wounds.

In gun shot wounds there is very often considerable nervous agitation, depending partly on the character and susceptibility of the patient. Some persons nerves are more susceptible than others, therefore having more sensation.

Treatment.

Depends considerably on the part wounded, extent of wound, state of patient, &c.

The first thing to be done is to observe, or find out as near as possible the exact

position in which the patient was, when the wound was received; the next thing to be done, is to place him in that position, as he may be examined more advantageously. The ball should be looked for immediately, or the wound examined. Pain should make no difference. Syncope will aid you as the patient will not be sensible to the examination. The wound should be examined immediately, because if it be not the wound will contract & be much smaller so that it cannot be readily examined. You should sound for the ball, the finger is the best instrument when it can be used; but the ball generally passes too deeply, therefore Bell's Gun shot probe is very usefull , or the long gun-shot probe, or a bougie, i.e. the sound might be marked so as to know the depth of the ball when found. Gibbons' pincers are very usefull in extracting the ball, or a scoop may be used, but the best instrument is one made by Le Roy for Lithotripsy cases, modified by Dr. Gibson to extract gun balls in these wounds.  See Gibson's Surgery.

After the ball had been extracted or searched for in vain, attention must be turned to the dressings. An emollient poultice is the most usefull application. If the inflammation is very high the poultice, & cold applications are very good. After suppuration has been established, the poultice should be laid aside, and tents of sponge may be resorted to to keep the wound open, and to keep the pus from the dressings; they should be taken out 2 or 3 times every day to let the pus escape. They may be used in nearly all places except in wounds of the chest. Pieces of bone loosened, or other extraneous matter should be removed, or they will produce irritation & may move from place to place, so as not to be found. The suppurative stage is the most difficult to treat. Very often hectic is induced, about 4 o'clock P.M. a rigor is shewn in the patient followed by a profuse sweat, when the patient is not phlogistical, i.e. it may be removed by removing the cause or after the disease is removed.

Wounds of the head.

The integument of the head is more sensitive and vascular than any other prominent part of the body. There is an intimate connection between the scalp and the meninges of the brain. The scalp is particularly liable to erysipelatous inflammation to which stretching of a wound on the scalp is prone to produce it, therefore stitches should be avoided as much as possible. The approach of erysipelas is so insidious as not to be easily told; if any puffiness be seen about the eyelids, and if the patient complain of being sick, and on pressing with the finger the redness disappear but reappear on the removal of the finger, the stitches should be removed, an emollient poultice applied, nauseating doses of antimonials should be given, bleeding, &c. After this inflammation is removed the parts may again be fixed together, as the erysipelas is not liable to recur.

Punctured or Penetrating wounds are more likely to produce erysipelas than incised wounds. Contusion produces generally an effusion of blood, which is generally absorbed in a few days, according to the quantity of blood effused, &c. This very often happens on the delivery of the foetus the concussion of the head being produced by the bones of the pelvis; this is not dangerous. Sometimes a bloody tumour is formed upon the head the edges of it are hard, the middle soft; the edges of this tumour very often on pressure make one suppose it is a margin of bone formed by a depression on the cranium; it may be told however by the patient retaining his senses if it is not a depression. If a tumour be large & the pressure be long continued, it will produce absorption of the bone. If a tumour be not absorbed in 5 or 6 days, the blood should be let out, & union by the first intention induced.

Extraordinary nervous symptoms are sometime induced, which do not occur very often for months or years after the injury; therefore in such neuralgic affections one should inquire of the patient if he had a blow on the head any time back. In these nervous symptoms the patient is very susceptible, he cannot bear any noise &c. The cause of this neuralgic affection is, the effusion of lymph at the time of the contusion, being thrown over a nerve binds it to the bone, thus giving rise to the disorder. The proper remedy is to make an incision & divide the nerve or nerve. If this will not do emetics are very often useful.

When abscesses form upon the scalp they should be opened.

There is more or less concussion or compression of the brain in consequence of a blow received upon the head. It sometimes happens in jumping, &c. being communicated through the medium of the body. Concussion sometimes separates the membranes from the bone, blood is effused, this producing a compression of the brain. If it is compression that had been induced, it may be known by its causing the patient's eyes to start, pupils expand, or contract, pulse small, respiration stertorous, total insensibility, &c. Here bleeding is good to relieve the compression. But in simple concussion the patient's eyes do not start, &c. but the pulse is feeble & almost gone, on account of the circulation being nearly stopped. In such a state one should not bleed the patient or he will certainly die; water should be dashed into his face, or he should drink either water or brandy which will revive him; in the course of 4 or 6 hours bleeding will be necessary, as reaction will have taken place.

Wounds of deeper seated parts. - Wounds of the scalp or on the side of the head if they cannot be stopped by pressure, should be ligated with the needle, instead of using the tonaculum, the needle holding them more securely. In wounds of the head the constitutional treatment generally will be bleeding, the antiphlogistic treatment, cold applications, restricted diet, &c. There should not be so much depletion as to let the patient sink.

If a sabre or a sword-cut expose the membranes of the brain, by slicing off the bone

the bone and other parts should be replaced as it very often unites completely. If the part be cut entirely out and lost, the crack thus formed is soon filled up with a tough fibrous membrane, which will protect the brain. A plate of bone, or metal might be placed over this to keep the place from injury.

Penetrating wounds made with a bayonet, &c., running through the bone, even if it does not go farther than the surface of the brain, generally prove fatal.

Wounds of the top of the head are not so dangerous, as if lower down; those of the back of the head if not very deep, less dangerous than those of the front, or sides.

The fracture of the occipital bone is more dangerous than a fracture of the frontal, or parietal bones. If the occiput be struck, very often, instead of breaking the occipital bone, the parietal or frontal bones are broken, being done by vibration as in such movements the weaker parts are more liable to break than the stronger. Some times a ball hitting the head glances off without doing much injury, at other times it lodges in the frontal sinus, or in some of the soft parts. It very often happens that the internal table is broken, while the external has sustained no injury. Injuries of the brain produced by a ball, &c. are not invariably fatal.

Symptoms of compression of the brain will arise sooner from an effusion of blood between the dura mater and the bone than from a depression of the bone itself. A depression of the bone may look large externally, but on the internal side the convexity looks very small comparatively. The cause of this is, that the external table is pushed into the diploic structure, making therefore comparatively a small prominence internally. Such is thus founded on this circumstance: the convexity is not so great as the concavity.

Wounds of the Face.—A wound of the supra-orbital nerve is invariably followed by amaurosis. If it ever recovers it must be because the nerve smites again.

If a shot be lodged in the anterior chamber of the eye it may be let out, if it pass through the pupil wounding the lens it may give rise to cataract. When the eye is torn out fungus is often produced which can only be depressed with nitrate of silver. When a person is shot in the eye it is better to wait till the inflammation subsides before it is attempted to get it out.

Wounds of the nose, independent of deformity, carries may be produced, spreading on to the spongy bones, the alveolar, cells of the ethmoid, &c. The patient's breath will be very offensive. The loose pieces of bone should be taken away, the carious bone sawed & scraped away, and the soft parts brought together by sutures.

In wounds of the face the exfoliation of the bone, and the horrible fetor are the consequences to be dreaded.

In wounds of the mastoid portion of the temporal bone, ulceration results, and suppurative matter pours into the internal ear destroying hearing entirely; caries is also often produced around the mastoid cells, if there is any trephining it will be followed by the patient's death; it can only be palliated, which

may be done by fumigation with Ethiope mineral. In wounds of the clasp the arteries should be tied, and the parts brought together by suture. If the parotid duct be wounded a fistulous opening will be formed, pouring the saliva externally. Compression may be used here early to promote union; caustic is also used; when the fistula has been long open an incision may be made externally & a portion of the buccinator muscle cut out with a pencil, the incision of the skin is then to be brought together & union by the 1st intention induced. By this operation the saliva will flow into the mouth. A fistula of the parotid duct is sometimes formed by ulceration produced by salivation. Wounds of the back of the head involving the organ of Philoprogenitiveness produce an atrophy of the genital organs. Wounds occurring lower down produce a general weakness caused by concussion of the spinal marrow. Wounds of this kind should be brought together and union by the 1st intention induced, so that the nerves may unite.

In wounds of the tongue whether bitten by the patient, &c. should be brought together by the interrupted suture. In the cutting of the frenum lingua (which is of no use) bleeding is often produced.

In prolapsus of the tongue, it should be forced into the mouth, and the mouth kept closed by an appropriate machine passing over the head, it will thus be partly absorbed, resuming its natural appearance nearly. When teeth are knocked out or loosened they should be put in their places as they will generally grow fast again.

If the lower jaw be broken or otherwise injured, it should be accurately adapted to the upper jaw. The patient can suck his food through the teeth. In suicide wounds are often inflicted by firing a pistol in the mouth; the parts are dreadfully lacerated by the explosion, all the soft & spongy bones being shattered. The explosion does more injury than the ball.

In wounds of the neck care is requisite in taking up the carotid, not to take up the par vagum with it, in the ligature. Constitutional symptoms arise remotely in injuries of the nerves of the neck. In wounds of the neck if the large arteries be cut across or otherwise the patient starves in a little time. Persons who try to commit suicide very often cut high up not wounding the carotid unless cutting very deeply. If the thyroid gland be cut, there is great danger of bleeding to death, on account of the vascularity of this organ. Great danger is attended with the attempt to extirpate this glands.

In wounds of the neck, generally, the arteries must be pulled out and tied, taking care to separate the nerves from them. The syncope from the loss of blood, if the patient is generally of advantage to the physician, as he will not be disturbed in his operations. The edges of the wound should be drawn loosely together with the interrupted suture, avoiding to stretch the larynx or trachea, as it will produce a great irritation which will produce a cough in the patient. The neck should

then be placed in its natural position, and kept in this position by a leather stock, such as soldiers wear, with a hole cut through it over the seat of the wound. The parts will soon heal up, but sometimes the wound in immediate ^{connection} with the cut larynx & trachea (if it be cut) becomes fistulous, which will occasion the use of caustic. One should not be too free with the stitches, as it will cause a considerable deformity upon the neck. When the trachea and oesophagus are cut across, a gum elastic tube should be introduced into the latter, and the patient is to be nourished through this. The patient should be nourished with fluids almost cold, for if they be warm and poured directly into the patient's stomach, being so warm it will irritate & produce inflammation of the stomach. If the oesophagus is not cut the tube should not be used, as it only irritates the part, but if it is cut, there is no other alternative. An eel-skin might be used when a tube of gum elastic cannot be procured.

Wounds of the neck are sometimes valvular and communicating with the trachea or larynx, emphysema is very often induced, by the gathering of air into the cellular tissue of the part, or of the whole body. It is also occasioned by wounds of the lungs. It is not considered dangerous, except on account of its pressure; it is also very inconvenient. Inflammation and suppuration have been caused by it. It should be let out by making a small incision as near the seat of injury as possible, pressing with the hands towards the opening to expell the air.

Wounds of the chest: Superficial wounds of the chest, are comparatively not very dangerous. The internal mammary artery behind the sternum, and the intercostal vessels in the groove of the ribs are well guarded. When an intercostal artery is cut there is a great difficulty in stopping it, on account of its situation; the best way is to press a finger on the vessel, and holding it there till it is tiresome, when an assistant should take your place, and this is to be continued till the blood has coagulated a considerable distance up the artery.

A ball may follow a concave surface, as well as a convex surface, although it is not so common as a ball going around the thorax on the internal side of a rib. Moderate pressure should be applied over the tract of the ball, after the passage has stopped, which is generally in 5 or 6 days. This is to promote union and to keep away suppuration. Wounds of the infra or supra scapular arteries are dangerous on account of the difficulty in ligating them; blood in the wound, or one or both of these arteries is effused forming a large tumour.

Wounds of the lungs may be known generally by the flow of blood from the mouth, of a florid colour and frothy; there is also considerable hemorrhage from the wound. When the blood pours into the chest, by the pressure on the lungs a sense of suffocation is induced, even if the lungs are not wounded the effusion of blood into the chest is dangerous. When there is doubt respecting the origin of the bleeding the wound should be enlarged and an examination made. When one lung is wounded only, it generally retracts into a state of quiescence at the bottom of the chest; respiration being carried on by the other lung. If both lungs be wounded the patient must necessarily die on account of respiration totally ceasing. Wounds of the thoracic duct are fatal.

Sometimes there happen very extensive wounds of the chest, occasioned by pieces of shell, &c.

These are not so dangerous in their immediate effects, as the remote ones; independent of hemorrhage, the great suppuration which takes place.

When the sternum is injured, it generally becomes carious, which being irritating causes suppuration in the anterior mediastinum, which proves remotely fatal. The trachea carries no good as the disease generally returns.

Very often adhesions exist between the lungs and the chest, which if ^{the lung be} wounded, would prevent it from collapsing; sometimes there is even a protrusion of the lung in part, though the external wound. In a case where the lung protrudes, the protruded portion should be let alone & allowed to slough off, or still better if the finger can be introduced, and the adhesions torn up, and the lung replaced in the cavity of the thorax. If there is adhesions there is bleeding from the external wound; but if there be no adhesions, the lung collapsing, the bleeding will be internally, ^{if it will not be bleeding at the mouth.} In cases of wounds like these, the patient should be bled from 1 or both arms, to the amount of from 1 pint to a quart. This will divert the current of the blood another course, giving time for the blood to coagulate in the wounded vessels. After the man is bled considerably, the bleeding from the mouth and wounded lung stops. If the external wound be made by a sword or other cutting instrument, (after bleeding the patient) the lips of the wound should be brought together and closed; for if it be kept open, suppuration will ensue in the cavity of the chest, and will be very dangerous; But if the wound be made by a ball, &c. the passage must necessarily slough after granulations be thrown out, the wound should then be closed. The blood which had been effused into the chest, becomes absorbed in time, from 4 to 6 weeks, if it be a large quantity. Sometimes after the blood is half absorbed, suppuration takes place, from the whole surface of the pleura. It should be let out between the 6 and 7 ribs; sometimes it points where it may be opened. If the suppuration be large hectic & other constitutional symptoms are induced. Sometimes the matter is absorbed.

If foreign bodies as a ball, pieces of cloth, &c. be carried into the chest and fall upon the diaphragm, the constant irritation induced will cause inflammation and suppuration, which lasts sometimes months, years, or even the life time of the individual. In such cases empyema should be performed as far back and as near the floor of diaphragm as it can be done; the chest should then be injected with tepid milk and water the patient should then be placed in such a position that the foreign matter may be floated out; this should be continued from day to day, till all symptoms of irritation, suppuration, hectic, &c. have subsided. The constitutional treatment should be the antiphlogistic &c.

Wounds of the abdomen.—Are generally more dangerous than those of the chest. As there is no bony case to the abdomen, it is not so well guarded as the chest. A ball sometimes gets between the skin & the muscles and makes a complete re-

14.

distention around the abdomen. If a ball passes through and through, it generally wounds several convolutions of Intestine. Sometimes the ball lodges in the intestine and is evacuated by stool. After an intestine is wounded the edges of it pucker, event, and if the hole be not too large, fill it up, preventing the effusion of feces into the cavity of the abdomen, lymph is thrown out over the surface of the wound. In wounds of the abdomen, as no part can be wounded, without the peritoneum being also wounded, the danger to be feared is peritoneal inflammation.

If a small wound in the intestine be puckered up, & closed with a ligature, lymph is thrown upon it enclosing it; the ligature then by contracting the intestine at the point, gets within the canal & is discharged by stool; this happens only when the wound is very small, ~~for~~ if the wound be large, even a half an inch or $\frac{1}{4}$ of an inch in extent & ligature attempted, symptoms of strangulated hernia will arise. (It is not meant to say here wounds of the intestines are to be ligated.) Blood from the anus & feces from the external wound is a sure sign of a wounded intestine. In wounds of the intestines, &c. the surgeon should not meddle with the parts, letting nature work the way. He should bleed the patient freely, restriction is died, & the general antiphlogistic treatment should be used. No nutriment should be given by the stomach, especially in wounds of the stomach or duodenum ~~it~~ should be given by enema. In an extensive wound, if an intestine be cut across completely, the edges of it should be brought together (put into such a manner so as one portion passes over the other, for the mucous coat will not unite to the serous,) by 1 or 2 tacks of the interrupted suture, and attached to the mesentery of the part, or to the external wound; (a curved needle should be used for this purpose.) Sometimes the bowels are protruded, by an extensive injury, and kneaded with a quantity of dirt. They should be carefully cleaned, and placed in the cavity of the abdomen. If an intestine be cut half through, it is of no use to apply stitches. The great danger in wounds of the abdomen, is the peritoneal inflammation; the susceptibility of which is different, in different constitutions. The effusion of blood or other foreign matter into the peritoneal sac, is worse than a simple wound. In these cases the diet should be very rigidly restricted, bleeding very freely &c.

Wounds of the duodenum are more dangerous than wounds of the stomach. The lower down the intestines are wounded, there is least danger. A severe blow upon the stomach is sometimes immediately fatal, at other times, giddiness and stupor are produced. This is caused by the nervous communication. Wounds of the stomach are not very common, but when they happen they are generally fatal; sometimes the wound becomes fistulous. Fistulous orifices also follow, sometimes, the lodgement of foreign bodies within the stomach, as knife blades, pins, &c. which some persons have the good appetite to eat. In wounds of the stomach, duodenum, &c. the patient must be supported by nutritive elycters.

Wounds of the liver are generally fatal. If the gall bladder be burst

the bile being effused, brings on peritoneal inflammation; when there is little chance of recovery. In wounds of the liver, (which are generally fatal in from 5 to 8 days) extraordinary symptoms arise, viz: the skin becomes very yellow and there is a constant pruritus over its surface. When the wound is very extensive there is great hemorrhage.

Wounds of the spleen, or pancreas are equally dangerous with those of the liver.

Wounds of the kidneys are very dangerous, though less so than those of the ureters, because the kidney may be wounded on the posterior surface & opening externally, it will not be very dangerous; but if the ureter be wounded, there will be infiltration of urine in the peritoneal sac, inflammation results, and death the consequence. Sometimes the wound of the kidney opening externally, and posteriorly, becomes fistulous, in such a case caustic should be applied.

When the bladder is distended with urine its superior part, verges above the pelvis, and is more liable to be wounded, than if it was empty, and lying at the bottom of the pelvis. To prevent infiltration a gonelastic catheter should be applied to draw off the urine. If a wound be made by a sword, and is small, it is not so dangerous as one made by a ball, but a large one will be more dangerous. A ball lodging in the bladder may serve as a nucleus for a stone. Sometimes there is a communication between the bladder and rectum, causing a mixing of urine & feces. If a wound be made passing quite through the pelvis, death is generally a necessary consequence.

If the spinal marrow be injured the parts below the injury become paralyzed. In these wounds the irritation often produces inflammation of the sheath of the spinal marrow, which results generally in the death of the individual. Wounds of the genital organs are sometimes attended with serious consequences. Sometimes the testicle will be wounded, it will slough, & the surgeon will remove the substance of the testicle in strips, thinking it is pus, thus castrating the patient. When a resemblance of purulent matter hangs thus from an injured testicle it should be let alone, and the testicle healed up. Sometimes troublesome fungi shoot from an wounded testicle, which if left alone, stretch up the cord, into the abdomen, &c. They should be depressed by the knife and caustic.

Wounds of the penis. - If the urethra be cut, urine is liable to be infused into the cellular texture of the scrotum, thereby promoting inflammation & ultimately mortification; immediately after receiving the injury, if urine be effused into the scrotum it should be let out with the lance. A catheter should be introduced into the bladder in these cases. Rupture of the urethra sometimes follows a blow upon the perineum. Sometimes the testicles & penis are cut off by

by a fanatick, or are taken off by accidental means. The cord slips up into the abdominal canal; the canal should be slit open and the arteries of the cord taken up, and tied. In wounds of the penis, it should be tasked with a few stitches of the interrupted suture, and a gum elastic catheter applied, Sal-camara and camphor should be given internally, to keep down erections. If the penis be cut entirely off, it cannot again be united, on account of its mobility. An incision communicating with the urethra will become fistulous; the twisted suture should be applied to prevent it. Therefore from this inference we should never cut from the outside in operating for stricture of the urethra.

Wounds of the joints.— Are more dangerous than any other kind of wounds. The inflammation depends on circumstances and on the constitution. A wound of the Hip joint & Knee joint are the most dangerous of any others. When the hip joint is wounded by a ball it is generally fatal, unless it can be immediately attended to; but an operation is also attended with considerable danger. The knee joint becomes ankylosed, if it recovers from the injury. This limb should be straightened on receiving an injury of any of the joints, but if the elbow be wounded, the arm should be placed in a flexed position. In cases of injuries of the joints of the ~~hip~~ knee it is often better to amputate. But amputation should not be performed immediately, while there is very little arterial excitement; after reaction has taken place, and there is considerable arterial excitement, which may be aided by giving at first, a little spirits & water, which will revive the patient so much as to undergo the operation in 4 or 6 hours after the receipt of the injury. If it be left to long amputation will be fatal, viz. after 5 or 6 days.

If the bones forming the ankle joint be injured, the only chance of recovery is to amputate. Where the joint is merely cut, we should not amputate. The diet should be restricted, ammonia may be used more advantageously than spirits, or opiates. But if the patient be of intemperate habits, he should have spirits.

Ammonia (mixed with gum), does not produce an ordinarily excited pulse, its action is not followed by depression. Wounds of the joints are the most dangerous accidents met with; especially in bad subjects constitutions.

Ankylosis— when imperfect, may sometimes be broken up; but when a joint is perfectly ankylosed, an attempt of the kind would produce great inflammation, mortification and ultimately death.

Wounds received in dissection.— The wounds when dangerous are generally received in dissecting a partly putrid subject, or one having had some malignant disease, as typhoid. After receiving a wound, it should be washed with soap and water, and afterwards sucked out by the application of the mouth, or cupping glass, after which caustic may be applied. Caustic should not be applied immediately after receiving a wound in dissecting.

17. Ulcers.

All textures of the human body are subject to the ulcerative inflammation, particularly the skin and mucous membranes. It is difficult for some textures to take on this species of inflammation, such as the arteries, &c.; they have powers of resistance in themselves. Other textures harder than the skin as bones, cartilages are particularly liable to ulceration. Caries is nothing more than ulceration of the bone. In white swelling, &c. the cartilages are often ulcerated. Ulceration may occupy any part of the human body, but it generally, occupies the distal parts, the circulation being more slow here the blood becomes stagnant. Therefore we find old ulcers generally on the leg. All persons are therefore more liable to ulceration than stout ones.

It is difficult to trace the action of ulceration. It is owing according to Hunter) to absorption.

If you have a case of ulcerative inflammation, you should endeavour to find out the cause. As if depending on the stomach, &c. For if the disease be healed up, & the cause be not removed, the disease may fall on some other, and perhaps more important part. The same stands good in gonorrhea, &c.

Ulcers may be arranged into 3 classes. — Healthy, unhealthy, and specific ulcers.

The healthy, or simple ulcer, called so because the natural tendency of which is salutary. It is the result of some injury done to a hard part, by a wound, burn, &c. See book for description. If the lips of the ulcer can be possibly brought nearer each other, and retained so by adhesive straps, it may be done. Then should not be too much pressure on the part. The stomach should be regulated, &c.

unhealthy ulcers. — 2 species: viz, irritable and indolent,

Irritable ulcers are generally found in persons, in good circumstances. Indolent ulcers are generally found in filthy, dissipated patients so common in the hospitals. The irritable ulcer is often brought on by a bad state of the system, &c. in nervous irritable patients. In this species of ulcer its edges are ragged, &c. there is generally spasmodic twitches up the limb. The inflammation stretches beyond the sore, & resembles the erysipelatous inflammation.

Treatment. — Purge daily, restrict the diet but with care, as it should be done gradually. If the patient has been used to drinking liquor it should not be taken away immediately, but the quantity should be gradually diminished. Wine is more hurtful than brandy, and small liquors hurtful to the constitution. The blue pill might also be used. The same application externally, applied, viz. ung. lim. and mercurial ointment is also useful. If the patient be reduced, Bark. Announ. should be administered, &c.

On these ulcers, the external applications should be changed as often as possible. Mercurial ointment, spermaceti, and Pula. opium makes a very good application. More depends on the constitutional treatment of irritable ulcers, than in the local treatment. Poultices may be used sometimes, but should be discontinued after 2 or 3 days. Prefere applied is hurtful. An excess of granulations should be kept down with caustic.

Indolent ulcer. - The most conspicuous symptom is the inverted edges, rounded off, or shelving; as long as this edge remains, it cannot heal. The indolent ulcer, is not generally attended with pain. When the ulcer has been of long standing, and the bone becomes diseased, as it generally does, also becoming enlarged, little else but amputation will do any good.

Indolent ulcers. = The poultice to commence with first, it will benefit almost any ulcer, it cleanses of the filth, corrects the discharge, preparing it for any other application. Stimulating poultices are best adapted for indolent ulcers. After using a poultice 3, 4 or 5 days, if the sore has been cleaned, the patient is to be treated with opium, dry lint may be applied, as it is sufficiently stimulant to ~~bring~~ many ulcers to action, it should not be applied so much, or so long as it becomes irritating. When considerable stimulation is wanted the Emp. Thuris comp. may be used. (See Sir Astley on ulcers.) In old ulcers, or after using the last remedy a length of time, and more stimulation is necessary, the citrine ointment applied with a camel's hair brush for 2 or 3 days. Another remedy is Nitras Argenti, this is useful in almost all irritable ulcers, many inflamed surfaces, fistulous openings, &c. It was a favourite remedy of Dr Physick to heal up fistulous orifices. It should not be applied too freely to ulcers, where it is wanted to act to fill the ulcer up with granulations, it should be delicately touched for 3 or 4 days. The veg. caustic gives more pain than lunar caustic, it also forms a thicker eschar. It may be applied 1 or 2 days & then discontinued, returning to the Nitrat of silver. When considerable stimulation is wanted, as in syphilitic ulcers, &c. the Aqua fagidamias may be used, and also the black wash. Lime water and Laudanum is a very good application in those extensive ulcerations following burns, it should be applied for 1 or 2 weeks with intermissions. Nitric acid has been used to a good purpose in all ulcers, viz. Acid. Niri. $\frac{gtt 50. to 100j}{water distilled}$. Especially used in indolent ulcers. It increases & reddens the granulations, changing the flabby and unhealthy appearance of them, causing the sore to put on a healthy appearance in a few days. When applied pure it forms very thick eschar, but after the scale is removed it will be seen that the sore has amended considerably, not recommended however. Savine powder in almost all old ulcers, may be useful; sometimes it is too stimulating. The best plan in applying it is to sift it over the surface of the ulcer, if it is too stimulating, it may be cleaned off as much as possible, & a little powdered opium sifted over it. The gastric juice of a hog was a favourite remedy of Dr Physick in

ulcers when the bone was diseased. It should be fresh taken from the animal every day, obtained from the butcher, telling them to starve the animal 2 hours before it is killed, so that the pure juice may be obtained. In certain cases the application of pepper is very useful.

The inverted edge of the indolent ulcer should be cut away, or burnt with caustic, as the sore must heal from the circumference to the centre, and not vice versa.

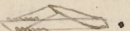
The Chloride of Soda water has been used, but like many other applications soon requires to be changed for another. A very good one in ulcers of ~~any origin~~ is the muriated tincture of Iron. It often produces as great an eschar as veg. alkali. A Hæmorrhoid remedy of Dr. Physick, for ulcers on the legs mixed British oil mixed with turners cerate or balsamum, &c. Turpentine has been used. Many sores want pressure before they will heal. A piece of sheet lead may be first applied, then a compress, & lastly a roller.

This presses the granulations closer together. Oiled silk has been also used. Another application is saltpetre ʒi to of aqua fontana for ind. ulcers.

Internally nothing is so beneficial as Casc. Ammon. from ʒ to ʒss. give with gum arabic, or combined with a little opium. It is not followed by depression, as the administration of liquor is.

Some persons being so intemperate it is necessary to give them the liquor they are accustomed to, to support the system, or they will soon sink, or the sore will not heal; but as soon as there is a striking amendment of the sore it may be gradually stopped.

In ulcers which slough very much, they may be corrected with the carrot poultice and yeast; after 2 or 3 days powdered carbon may be applied. In indolent ulcers the application of adhesive straps to promote pressure is useful sometimes, a roller should be put over the straps. The patient should remain quiet as possible. If the sore be small he may take moderate exercise. When the ulcer is excavated Venice turpentine may be dropped in to fill the cavity, & a roller applied over this. If used too much is apt to produce irritation.


The inclined plane should be used. It should not be too high or too low; about 45° is the height. 

The varicose ulcer is extremely difficult to cure. It is caused sometimes by the uterus pressing upon the abdomen, in a state of pregnancy, the veins enlarge on the thigh, some of them burst ultimately, an ulcer is produced. The cause is to be first removed, before a cure can take place. Ligating the veins above has been done for it. But it is a dangerous operation.

The menstrual ulcer, or a discharge of blood from the thigh. The state of the system should be corrected.

A painful ulcer is very often produced by the sides of the toenails growing into the flesh at the sides. The middle of the nail should be scraped very thin,

the edge cut square, and a piece in the shape of a wedge cut out in the middle.

 This will an eversion of the edges at the side, by them not growing, while the middle only grows. Sometimes fungus sprouts out, which must be suppressed with caustic. Sometimes the patient is careless, & the symptoms so violent, that the toe nail must come off. The patient should set with the sore foot upon the table, the operator in a chair, so as to be on a level with the foot. The nail is to be cut from before backwards, split & each piece torn out. This is an exceedingly painful operation. The most painful of any in surgery.

Certain ulcers lose all marks of granulating, there is no sense of feeling in them. An ulcer of this kind says Dr. Wilson looks like a broiled herring. Caustic, or any other of the applications, before mentioned, will make any impression upon the callous ulcer. The actual cautery well applied, raising a very thick eschar, is the only remedy.

The great secret in treating ulcers is, to keep the part quiet, dress it yourself carefully, vary the applications &c.
Carved splints should be used for the joints, in ulceration of the joints.

Scrofula.

It is very common, gives rise to an immense number of diseases, or effects. When it has taken hold of any one, it is permanently engrafted. It is either acquired, or hereditary. It gives rise to Pthiasis, cancer, Fungus haematodes, &c. All parts are subject to it. It is very insidious. Told often by the beauty, & intellectuality of the person. The eyelids are subject to ulceration, & enlargement of the lymphatic glands, the feet & other parts are easily frost-bitten, which crack, & pour out pus; roughness of the skin on slight exposure to the air. A great deal in this disease depends upon the climate. Persons at the north are more subject to it than at the south.

Treatment:—Change of climate from a cold, or damp one, to a dry or warm one; care requisite in diet, nutritious articles used; care in dress, patient should be covered completely with flannel. The bowels should always be kept gently open. In the south the sea bath may be used, but in the north it is detrimental. This plan of treatment, if persisted in will help, if not cure the patient better than any of the medicines.
Iodine has been used a great deal in this disease.

Cancers.

There are 2 terms for cancer = *Lechirus* which is the incipient stage of the disease, and cancer or *carcinoma* the advanced stage. There are several varieties. Some diseases have a great resemblance to cancer, as fungus haematodes. It is a local disease which by progression becomes a constitutional disease. Therefore can only be cured in its incipency by the knife, or caustic, or other local means. It is also hereditary, but is generally acquired by some injury done forming a nidus for certain animalcules, which are supposed to be the primary cause of *Lechirus*. It is also supposed to be formed by their resting upon some tender point, as upon the lower lip, the ducts of the mammary glands, the uterus, &c. It is hardly ever found to originate in the lymphatic glands, thence differing from *Leishmania*, which it does in many points. It may however creep to the glands involving them. It is unconnected to the muscles below except by adhesions.

The signs of cancer are unequivocal. Generally a mass unconnected with the vessels of the part, dense, heavy, compact, loose from the parts below, &c. The skin above the tumour is darkened & feels irregular, the veins beneath are very tortuous and crooked, supposed to resemble a crab, thence the name cancer. When the tumour is cut open a central nucleus is seen with radii shooting from it, between which the mass is rather softish. In advanced stages cysts are seen resembling hydatids, which when struck, throw the fluid contained a considerable distance, owing to the contractility of the membrane of the cyst. These hydatids are found almost invariably of one shape viz, rounded, membrane white & fluid transparent.

Cancer sometimes attacks the skin, when it is called cutaneous cancer. It is mostly like excrecence on the face and irritated for a length of time it increases, and a pilific fungus shoots out. Cancer is hardly ever found in young subjects, thence differing from fungus haematodes.

Violence committed to a part is generally the exciting cause of cancerous effects.

Treatment. Little can be done for the constitution. Iron and arsenic have been given internally, but it is doubtful if any good will ensue. The only external applications are caustics. Nole vin tangeri has been taken for it; this disease is increased by severe applications. The knife is the only remedy in cancer, & then, only in the incipient stage. The earlier it is taken out the better.

Some will not submit to the knife, when caustics must be used.

When the cancerous tumour is taken out, the physician should cut around the disease at a considerable distance, and not dissect the tumour out at

* As in shaving, being frequently cut with the razor.

its edges. As much of the skin as possible should be taken away, for by leaving the skin which covered the tumour the disease often returns in the skin. $\frac{2}{3}$ of the skin should be taken away by a cruciate incision. After cancer attacks the neighboring glands, it may be pronounced incurable.

Cancer of the eye.—Genuine cancer of the eye is generally found in old subjects. It usually commences in the anterior part of the eye. Fungus hematodes is generally found in young subjects.

The cause of this cancer generally proceeds from a blow, vision is gradually debilitated & finally lost. The lachrymal gland is occasionally the seat of the disease. The coats of the eye are much thickened in this disease &c.

The lip is more subject to cancer than the eye. Different diseases of the lachrymal glands are often taken for cancer, which are occasioned by smoking &c.

Stopping of the catamenia is often a sign of a predisposition to cancer.

In cancer of the lip, the diseased mass should be cut out in the shape of a letter V. See Surgery.

In the eye. Fungus hematodes commences internally; but cancer external. In taking the eye out if it is suddenly pulled, or if the optic nerve be cut too far back, inflammation may be communicated to the brain by the nerve. In taking out the eye the tenaculum should be directly thrust through the substance of the eyeball, for if it be merely thrust through the tumour, it being so soft it will easily tear out. After it is taken out the parts around & the cut end of the optic nerve should be examined to see if any parts are diseased. If the end of the optic nerve looks bluish it should be cut off beyond the discoloration. The lachrymal gland should always be taken out.

Sometimes the granulations are produced to such an extent as to protrude from the orbit, so as to resemble a return of the disease. They should be let alone, as they will in a few weeks become absorbed and with the orbit. If an artificial eye be used, it should be a good one. It should not be put in the eye too soon, as it may excite irritation.

Cancer of the tongue.—Very often fatal. It is generally found in persons between the ages of 45 & 60. Causes generally, high living, &c. Sometimes other diseases may be taken for it, as venereal ulcers, shot like tumours from irregularity of the stomach, fungus, prolapsus, &c.

In the genuine schirrus it should be extirpated as soon as possible.

If a ligature is applied to extirpate it, it should be drawn very tight, for by so doing, although painful at first, it will subside in a few minutes and no pain will be felt at all. After the part sloughs off, the chalon fills up in a few days. *


Cancer of the breast. - Which happens oftener than any other & next in frequency the uterus, there is great sympathy between the two. It may be readily seen by this that it generally happens in females.

Other diseases may be readily taken for it, as for instance if a young female from 18 to 25 - have a tumour in the breast, if the catamenia are irregular, if she has received a blow, or taken cold, &c. it is the result of these & not a cancer. It is not so heavy as cancer. It is generally found in females, about the age of 45. The sooner the cancer is extirpated, the better. For if it be put off so long the glands may become contaminated, when it will be incurable, & in time fatal. In extirpation of the mamma the incision should be made first below the nipple. Sometimes glands diseased are imbedded in the pectoral muscle they should be dissected out.

The glands around are generally enlarged by inflammation, not being fully diseased they should all be taken out. The breast should be dissected from below upwards, it will then serve as a handle to pull down the glands seated around the axilla. It should be cut only $\frac{1}{2}$ beyond the boundary of the tumour.

Cancer of the uterus. - Seems to be intimately connected with that of the breast. When it is operated on, the disease often attacks the breast; & when the breast is operated on the disease often attacks the uterus.

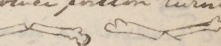
Crab tumors are often taken for this disease in this organ, as Hydatid, &c. Genereal affections, often taken for cancer, as genereal ulcerations on the neck of the uterus. Genuine cancer of this organ hardly ever becomes very large, it is hard, rough, heavy, the finger is soiled with blood and sanious matter, when introduced into the neck. It may extend down the vagina to the Calicyn, even to the thigh, if the patient does not fall into relapse, which she generally does long before this could happen. The glands in such a case are affected all around, kidneys and uterus contaminated, &c. It can only be cured in its incipency. The neck may be removed, but it is perfectly unjustifiable to remove the body, as it will be necessarily fatal, the peritoneum being

* A needle with two ligatures should be used, ~~and~~ and should be applied in the following manner. -  Where the glands under the jaw are affected, the operation should not be performed.

cut, peritoneal inflammation will take place. Cancer of the penis is not very common. Venereal warts are often taken for this disease. They are pedicellate, resembling a mushroom. The prepuce should be split open and the tumour examined, if it is found to be cancer the penis should be amputated. It should not be dressed immediately after amputation, because small arteries afterwards very often spring, which should be tied.

Fungus Hæmatodes. - The cause very often can be traced to some injury received. No cases on record of a perfect cure. If the tumour is small and you are doubtful whether it is F. H. cut it out, or even amputate, but if you are sure it is F. H. let it alone.

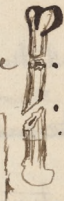
Fractures.

If a bone be much broken and amputation is necessary, ^{and} if the patient refuse to have it amputated; take notice of his constitution, and if it be a good one, try and save the limb, stating the case to him, &c. Fractures are divided into simple, compound, complicated; also transverse, oblique, longitudinal and comminutive. See text book, for definition. A simple compound fracture (mentioned by John Hunter) is one where the bone has been pushed through an external wound, but easily returned, and the wound healing by the 1st intention. Great violence must be done to cause a longitudinal fracture, as with a bullet. It may be partly done, as the fracturing of a condyle from the shaft; it is done sometimes by the dentists in pulling out teeth, fracturing the alveoli in a longitudinal direction. But in speaking of longitudinal fractures the long bones alone are the only ones meant. The direction of a fracture must be taken into account, if the surfaces pass each other the lower portion may be drawn up by the contraction of the muscles, thus causing a shortening of the limb. Bones are also subject to derangement in the direction of their circumference: done by the lower portion turning upon its axis; or the derangement may be angular: thus ; or it may take place laterally.

Causes.—Violence, disease, &c. There seems to be a predisposition in some persons to have their bones fractured. Old age—by the successive increase of the earthy, and decrease of animal matter, in old age the bones are brittle; more so than in the young subject. But as muscular power also decreases in old age, fractures do not happen much oftener in old people than in young ones. Scrophula, Syphilis, Cancer, &c. often cause the bones to be so brittle that on the slightest fall, or on turning some bone is broken. In Children sometimes the bones are very brittle breaking from the slightest causes. Sometimes this fragility of the bones seems to be suddenly acquired. It is believed by many that if the bones be sound and healthy they cannot be broken by muscular effort alone. In falling the bones

are generally broken, by an effort on the part of the muscles to resist the fall: hence the muscles being in action at the same time when the violence of the fall, or otherwise is received, it is broken by the conjoined action of both. As a proof to this assertion; a drunken man, whose muscles are not in action, being in a flabby condition, falls about very often without any injury, except bruising the muscles.

If force be directly applied to a bone, the fracture is generally transverse
 If indirectly *oblique*
 A bone may be broken by counterstroke; the shock being carried to some weaker bone which is broken: as a blow received upon the shoulder, very often fractures the clavicle &c.



Diagnosis. The one of most importance is crepitus, or that grating noise produced by rubbing the two fractured extremities of a bone together. It is not however perfectly decisive; in old people being used to hard labour, the synovia of the joints becomes inspissated, producing a kind of grating noise when put in motion. Again, sometimes in luxations of 2 or 3 weeks standing, there is a grating noise produced in the luxated joint. The noise produced is not altogether one of hearing. It is an intermediate sensation between the touch and hearing, only learned by experience. One should not rub the fractured extremities of a bone together, in such a manner as to produce violent pain & perhaps inflammation. If the lower part of a bone moves in any direction it is another sign of fracture, although there is often a similar movement sometimes perceived in a luxated bone.

Prognosis. According to circumstances. A union by callus is not so perfect in an old person as in a young one. In *fragilitas ossium* the bones easily unite, but are as easily broken. Much depends upon the size of a bone. Broad surfaces are longer uniting than narrow ones. Much also depends upon the part of the bone broken; thus a bone unites much sooner, and more readily in the middle of the bone, than at the neck of the same bone, &c. This is because of the difference in vascularity of the parts, the parts being more vascular around the middle of the bone, than at the extremities; it is for this reason that the neck of the femur, the patella, &c. are so long uniting. They are generally united by the same kind of substance, the patella is an exception to this very often; it often uniting by ligamentous fibre. This is accounted for, on the part having little vascularity. On the whole the constitution is not so adverse to union, as the vascularity of the part, so that the middle of a long bone unites as soon in an old person, as a fractured extremity does in a young person.

General Treatment. Splints and Bandages are used, to keep the parts in contact.

Bandages. Coarse muslin bandages are better than any other. The selvaige should be torn off, and all seams taken out, and they then should be washed before used. The rollers should be made 2 or 3 inches wide. They should be put on smoothly as possible, taking care to make as few doublings as one can, as they cause welts upon the skin. It is a good plan to persisten the roller very slightly before put on, but care must be taken not to moisten it too much or it will contract binding the limb too tightly, impeding the circulation. In applying the roller it is advisable to commence below rather tight, and gradually slackening it, as you pass it up the limb. This, and the bandage of Scultetus are the only bandages necessary. (For description of this bandage see.)

The roller should be held in this position. It should never be applied so tight as to impede the circulation, nor should it be too loose, but it should be applied with moderate firmness.



Splints. Are made of different materials. The best for small fractures, are made of binder's boards; by cutting into strips of the desired size and wetting them, they may be moulded to the part fractured; when dry they form excellent splints. If the fracture require more support, good splints may be made out of batter's felt, by being warmed, by holding near the fire a piece may be moulded into any form desired, and when cold it will be very firm; rendered so by the shellac varnish which they contain. For large fractures, &c. wooden splints are used. Extension is meant a power applied to the lower fragment, pulling it from the upper. Counter extension, a power applied to resist the extension.

By coaptation is meant, the adjustment of the fragments by the fingers.

x Baster drawing the strips through hot water.

Fracture of ribs. A direct blow causes the apex of the fracture to be internally, the base externally. If the violence be applied at either extremity, the apex of the fracture will be externally, the base internally. The direction of the blow therefore, should be a point of inquiry. To remove the apex internally, pressure should be applied at the extremities; but if the apex be external, pressure should be directly applied. The chest should then be enveloped in bandages in such a manner, so as to keep the intercostal muscles from working. If the fracture be a bad one, the patient should be bled freely, so as to keep away inflammation of the pleura; which may take place from spicula of bone, or suppuration may take place, or caries of the bone be produced. Fractures of the ribs generally happen either in the middle or at the angle. There cannot be any overlapping of the extremities of the fragments, because of the connection of the sternum & the vertebra behind, but one fragment may be either higher, or lower than the other. If a fracture is not evident take it for granted there is one, & envelope the chest, & bleed the patient.

Fracture of the sternum. Generally the effect of a direct blow. The bone on receiving an injury of this kind is very apt to take on inflammation & suppuration. It is of no use to try & remove caries of this bone with the trephine, as the disease will return again. But it may when simply fractured, join together again.

Scapula. - A fracture through the body can hardly ever be detected; but where the lower border is broken off, the contraction of the muscles will separate the fragments, making the fracture evident. If the spine, or acromion be broken the arm will drop which may be known from a luxation, by there being a space of 2 inches between the acromion & the head of the shoulder, while in a fracture, the acromion drops with the shoulder, being connected with it.

The coccyx is not often fractured. When the sacrum is fractured there is a paralysis of the lower extremities. When the bones of the pelvis are fractured, they generally terminate fatally.

Clavicle.— Either broken directly, or by counterstroke. The fracture generally takes place at the middle, and at the humeral extremity. Symptoms.— falling of the scapula downwards & forwards. If this bone is once fractured it is very liable to a recurrence of the injury. The apparatus of Desault is used for the fracture of the clavicle. A cushion V , and 3 rollers necessary. The indications are to keep the shoulder upwards, outwards & backwards. It takes generally from 5 or 6 weeks to perfect a cure.

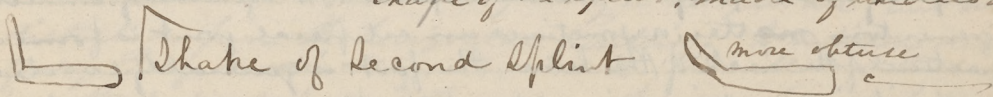
Humerus.— A fracture of the superior neck of the bone is the most important, as it may be taken for dislocation, and vice versa. In every luxation of this bone, no matter in what direction, there is invariably a depression or hollow under the acromion scapulae, in which the finger can be placed; but in a fracture, there is no depression of the bone. The head of the bone is in contact with the acromion. Much also may be learned by finding out the way the fracture was occasioned. A direct blow generally produces fracture, especially if the arm be fixed, as if the hand being in the pocket. A luxation generally follows contre coup.

Fractures are most common in the middle of this bone.

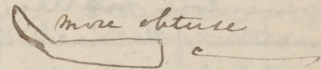
Fractures of the condyles are apt to be followed by deformity.

In these fractures the thumb should be always kept upwards, as the arm will then always be straight. The situation of the arm in fractures of the condyles should be changed in 2 or 3 weeks, by a splint with the angle more obtuse. In the intermediate time, passive motion should be produced to avoid anchylosis.

Shape of 1st Splint, made of binders boards,



Shape of Second Splint



In fracture of the Scapula the arm should be placed between semi flexion and extension.

In fractures of the fore arm. The pressure of the bandages should be supported laterally by the edges of the splints, which must

be wide enough. The muscles should be kneaded into the interosseous space, to separate the bones. The thumb should be invariably upwards, & it is the great secret in treating these fractures.

If any of the phalanges are broken 4 small splints & a bandage is to be used.

Patella.—When it happens there is frequently a natural tendency to brittleness. There is a wide separation of the fragments in a transverse fracture. In a longitudinal fracture, a line or double line merely is a symptom.

The union in transverse & oblique fractures is generally ligamentous. When this ligamentous attachment takes place, the leg is weak a long time, especially if very long; therefore it should be an object to bring the fragments as near together as possible.

By **Extending** the thigh upon the pelvis, the leg upon the thigh, it weakens the effects of the muscles.

Femoris.—The neck is generally fractured in old subjects. The middle in the young & middle aged. The lower fragment is generally posterior to the superior fragment; sometimes outside, and inside. The superior fragment is not displaced.

The obliquity of the neck changes towards a right angle as one grows older. One reason why the aged more subject to it. It becomes more spongy. Females more subject than males, because the neck is longer, placed more at right angles. The fracture, generally, is partly within, and partly without the capsule. If the limb be shortened from 1½ to 2 inches, you may suppose the fracture is within the capsule, but if it be shortened 3 or 4 inches, it may be supposed to be partly within, and partly without the capsule.

Good reunion within the capsule is of rare occurrence. When it happens the fracture is partly within & partly without the capsule. It is generally connected by ligamentous matter, or sometimes an artificial joint is formed. In fracture of the neck of the bone, the foot is generally everted, although it is sometimes inverted; shortened generally from 2 to 5 inches, in luxation the foot is generally inverted. In a fracture the thigh is easily pulled down, in luxation it is extremely difficult; in fracture after the thigh is pulled down, when let go, it will be drawn up again; when a luxation is pulled down, it will stay down.

Dislocations.

In trying to reduce a luxation, sudden force should not be applied. The extension & counter-extension should be equal. The patient's mind should be diverted away from the subject of dislocation, as the muscles are often thus relaxed & the bone slips into its socket. When the patient is bled it should not be told him that ~~he~~ is to be bled until he faints, or it will not have the desired effect. Intoxication, nauseating doses of antimony are given to produce a flabbiness of the muscles. Smoking an old pipe with strong tobacco, will generally produce sickness, & hence producing the desired effect, viz. relaxing the muscles.

When a luxation is reduced by pullies, it is not followed by an audible snap. This only happens when the bone is replaced, without the use of the pullies. In reduction the longer the lever the better.

Caries of the Spine

Differs from the curvature of the spine so common in growing persons.

It is seated in the bodies & intervertebral substance. It is an absorption or ulceration. True caries is found almost invariably in scrofulous persons.

By the irritation produced by the caries, great quantities of matter form in the abdomen, discharging generally at the groin. This matter is scrofulous in appearance. Caries may go from one bone to another, even involving the whole spine. If a number be involved, the result is generally fatal; if 2 or 3 only are carious, the patient may recover. Caries is not necessarily accompanied with curvature. Cures are effected by the secretion of bone, anchoring the bones together, the morbid absorption having been stopped. Caries is to be treated by rest, so that bony matter may be thrown out. The patient must lay in the horizontal position for months, or years, but he should not be confined in a room without having access to the fresh air. The patient should be exercised by riding in the open air, but without being disturbed from the horizontal position. A nutritious diet is necessary. Purge moderately, or 2 a week. This will not tend to weaken the patient, but on the contrary, they often become fat. The patient should lay on the front side of the chest, if there is a lump on the back. The patient will grow better & better by the rest, &c. Do not undertake a case of this kind, without obtaining the promise, that the patient is to, & must rest for months or years. The de-

fornity is not removed. After the patient has got well, the palsy of lower extremities, pain, &c. have disappeared, machinery may be used to support the spine while walking, and if he fall he is safe, &c. *

In curvature of the spine, caused by a weakness of the muscles, being incapable of supporting the spinal column, a different treatment is to be pursued. Corseting, sitting in a bent posture, &c. are some of the causes. The curvature may be felt, by laying the patient in a horizontal position, & running the fingers along the spinous processes, when a serpentine curve will be perceived. Exercise, a good diet, pure air, &c. are indicated here. Machinery may be used from the first. A good plan of exercise to strengthen the muscles of the back, is, to balance weight on the head.

Contracture of the hand occurs from inordinate use, as in the blacksmith, sailor, &c. It is caused by the contraction of the palmar fasciae, or of the bands sent off from it. The action of the hand may be restored by cutting the fascia, or the prolongations, if it is the fingers contracted.

Tumors in the same place, & resembling spina bifida may occur, though rarely. These may be removed.

* Caustic issues are very important in cases of the spine, being applied each side of the spine. Dr. Physic substituted purging. Dr. Gibson recommends a trial of the issues.

Coxalgia.

Or caries of the hip joint. Almost invariably found in scrofulous persons. Generally in young persons. Symptoms. - Pain is first felt on the inner side of the knee, when pressure is made upon the acetabulum from the groin, pain is deduced. The leg is drawn up by the patient to relax the muscles, resting it upon the point of the toes. The shaft of the bone wastes away. There is an inclination of the pelvis, in the early part of the disease, towards the diseased side, there is a corresponding one of the spine, this causes the diseased limb to look longer. But if the patient be kept at rest for a length of time & cured, if he then leans forward, the inclination of the pelvis will be towards the sound side. Suppuration follows this disease.

This disease is very intractable unless taken in the commencement. The shaft of the bone may become carious. It is not necessarily cured by anchylosis. Treatment. Rest in a horizontal position, purge, diet, &c. after a few weeks, apply Physic's curved splint. The limb should not be forcibly straightened, but the splint must be made to suit the limb, as it is found, no matter how curved. The splint gradually overcomes the bending, so that in a few weeks it will =

Hernia.

The word rupture, which is often used for this complaint, is inaccurate; because there hardly ever occurs a rupture or laceration of the part. The word hernia should belong exclusively to the abdominal protrusions. Hernia is more common in some countries than in others. It is most common in warm, hilly countries, because of the habitual ascending steep places, &c. In inguinal hernia, the sac by long protrusion from the Int. abdom. ring, passes the Int. ring so that in time it gets immediately behind the ext. ring - making it difficult to distinguish the case from one of vent. inguinal hernia. The Inguinal, Femoral, & Umbilical are the most common forms of hernia. Ventral & Vent. inguinal are by no means uncommon. Hernia may take place in the parts of the abdomen, as though the Psoas notch, obturator foramen, perineum, through fissure between diaphragm & ant. part of chest, &c. Reducible hernia is predisposed to return to the abdomen itself, when the patient is in the horizontal position, if the protrusion be a portion of bowel a purgling noise will be heard as it returns. When the hernia comes down & cannot be retained it is called an irreducible hernia. It is not necessarily strangulated. It becomes irreducible by being irritated by some cause, when inflammation is set up, & by pushing them out of the sac; this moves or entangles it by transverse bands. In strangulated hernia the bowel or omentum is strictured, so that the faeces are suppressed, there is great danger in this variety of hernia, as the neck of the sac may ulcerate or mortification may take place in the sac. The S. hernia is followed by constitutional symptoms, pain across the abdomen, nausea, vomiting, suppression of faeces, cold skin, sometimes profuse perspiration, depression of countenance, anxiety, &c. Every hernia has a peritoneal investment. Many persons are predisposed to hernia by having the abdominal parietes weak or imperfect. It is also caused by exercising inordinately, straining, &c. The Hernial sac enlarges by age, as the pressure is increased.

See book for varieties of hernia.

Gum elastic is not good to make a pad, for a hernial truss, as it produces irritation, inflammation & suppuration.

It will be found necessary to apply a straightener splint. It will not generally take more than 2 or 3 splints.

Dr. Physic in commencing his system of purging, commenced with calomel, & afterwards gave rhubarb, magnesia, jalap, cream tartar, &c. Yous have proved useful in this disease, made with a seton.



The protrusion of the bowel is always doubled or knuckled, therefore in operating for S. hernia the intestine may be known by the crease seen in the middle. This crease is present, even if a small portion of the gut only is protruded. When the ~~hernial~~ sac is opened, and if the intestine looks red or even black, it is not necessarily a sign of fatality, if it looks in this manner the gut should be kept out for 4 or 5 minutes to see if the circulation returns to the part, if it returns, replace it in the abdomen. Of course the stricture has been cut. There is no danger in cutting the indurated peritoneum when it adheres to the sac, because its nature is entirely changed, but you should not extend the incision too high up, or the proper part may be cut which would cause the inflammation to extend up & through out the peritoneum. When you cut down to the hernial sac in a fat subject the fascia superficialis will be found in 3 or 4 layers, but in a thin subject only 2 or 3 layers. The cremaster muscle is next found spread as a thin membrane over the sac. The next is the sac itself.

Hemorrhoids.

They may be the foundation of other diseases. In consequence of inflammation produced by straining, & otherwise, lymph being thrown out, and forming a tumour around the pile. There is no danger in cutting it off. But if large convolutions of veins are cut great hemorrhage will ensue. In old piles there is generally a tumour of lymph, sometimes there is a varicose vein in it, which cannot be known, therefore there is danger in cutting it. In the veins, the wire & canula is the best remedy. It should be applied first to the largest & most painful pile. The wire should not be so small as to cut the pile, or so large as not to strangulate it. It should be pulled with all the force which can be exerted by the operator, or till it becomes completely black. This operation is extremely painful, but if it be rightly strangulated the pain will soon subside. It should be left on from 12 to 24 hrs. & then taken off. After the largest tumours are taken off, which gradually takes 2 or 3 operations if there are 5 or 6 tumours. The reason it is not applied to all of them, is, the smaller ones generally retire after the large ones are gone. If the tumour is merely of skin it may be clipped off.

Palliative treatment = Green persimmon poultice, Oak bark poultice, &c. Internally - Bals. Copaiva, Ext. Stemonium,

Diseases of the eye & its appendages.

Notes taken from the lectures of

J. Whiston. 6. 23rd 1842. Surgical Anatomy, with
The eye has a representation of every tissue in the body. remarks.

The cellular tissue beneath the skin of the eyelids never gives rise to inflammatory tumours, but it does to extravasation or infiltration of fluids.

When ecchymosis of the lower lid takes place, it is a pathognomonic symptom of fracture in the base of the cranium extending to the orbit.

6. 28. 32. A cataract of the post. capsule of the crystalline lens has been supposed to exist; but there is no capsule of the kind, & consequently no cataract of the kind. When there is a cataract posterior it depends on an opacity of the post. cortical portion of the crystalline lens.

Opacity of the lens has been lately said to be owing to a disease of the anterior capsule of the lens. If so, we might suppose that some remedy directed to the irritation of the capsule, would cause the opacity to be removed.

Theories of the action of the iris. — 1 Circular & radiated muscular fibres; 2 Circular muscular, & elastic radiated fibres. 3-th are generally received - that it is an erectile tissue: the contraction of the pupil being owing to a vascular turgescence, a dilatation owing to a relaxation of the erectile tissue.

The stimulus of light, & inflammation of the iris, cause contraction of the pupil. By the stimulus of light the contracted pupil is always circular & in the center of the iris; but by inflammation, the pupil though contracted is nearer one part of the circumference than the other, ~~and is irregular~~ & if the inflammation be influenced by some other character, as scrofula, rheumatism, syphilis, arthritis, &c. the pupil may

2.)
be met with the long diameter vertical, or horizontal, or oblique,
or it may have a hooked termination. (1) (2) (3) (4) (5).

The iris is not very sensitive, as no pain is produced on cutting it, but being very vascular, there is some hemorrhage.

The pupil is also found to contract, in the operation for cataract, & excision of the cornea, when the iris becomes, often, flaccid, even falling under the knife; & rubbing the finger roughly over the cornea, it has been found to contract, falling backward.

Indistinctly

In inflammation of the tunica Jacobi, serum is effused, which pressing backwards, paralyzes the nerve, giving rise to amaurosis, also pushing forwards, forming protuberances in the sclerotic, called staphylomas.

Heard.

The long ciliary branches of the ophthalmic run horizontally over the middle of the eye-ball. Therefore in couching for cataract, the instrument should be introduced either above or below the middle line, to avoid cutting the arteries, for if cut they may give rise to considerable hemorrhage.

In extraction of the eyeball for young Lamatodes or other disease, it has been a custom to stuff the socket with lint to stop hemorrhage. ~~Caution of the~~ Symptoms of compression of the brain has arisen in young children from such a treatment. As the artery is too small for any extensive hemorrhage it is no use to stop it, but on the contrary it is better to promote it, & injecting warm water in the cavity; in this way subsequent inflammation will be greatly guarded against.

Diseases of the conjunctiva, are identical with those of the mucous membrane of the urethra; & an inflammation may be transmitted from one to the other. It differs however from all other mucous membranes.

Ophthalmia when situated in a single tissue, is called simple; when occupying several tissues at the same time, it is called combined.

Simple ophthalmia is caused by some external agent: considering air, & light among others as ext. agents.

An external ophthalmia when simple arises from ext. agents. considering that of the retina when caused by too great light as external.

The internal inflammation when simple, arises from internal agents, as deep-sea, syphilis, &c. excepting of retina when caused by light.

We may have one of the simple infl. caused by ext. agents & from int. agent ~~in the same time~~, thus may be combined.

A simple ext. inflammation may take on the internal character.

In simple inflammation, the indication is to remove the plasticity of the blood.

In all seven ophthalmias, a general rule is to bleed, & follow it by local depletion. ^{urgently} Leeches is the best means of local depletion. A sufficient number should be applied, so as to deplete for the ophthalmia, & also to counter-balance the irritation produced by the leech-bites. They should always be applied to the temples.

The vessels of the conjunctiva, from congestion in inflammation lose their tone, hence astringent washes prove useful.

I do not recommend blisters; as blisters & uteros, except in inflammation of conjunctiva, where the secretion becomes mucous-purulent; others are aggravated by them. Purgatives may also be used as resorptions.

Counter irritants, as mercury, are not recommended; because of difficult application.

The indication in Ophthalmia is to prevent the exudation of fibrin from the serous & venous coats of the eye, & also to diminish the plasticity of the blood. Mercury is a useful antiplastic; caution is necessary in its use; it should not be used as a purge. The best manner of giving it, is in small doses frequently repeated three or four every hour until you produce the mercurial action, then discontinuing. Mercury has no specific action in these diseases, except in syphilitic irritation.

Whenever there is an inflammation of any of the transparent tissues of the eye, or of the iris, apply mercury locally. If any pain exists in these diseases it should be removed. There is increased pain when the flow of the blood is increased. Use Belladonna, Chamomile, & Cocaine; ~~the exposure of the iris to the light diminishes the plasticity of the blood & it diminishes the pain these diminish pain, & prevent the contraction of the iris.~~ The 2 prominent indications are to diminish the plasticity of the blood & the pain: Ung: Hydrag: cam Ext: Bellad: aa, is a capital remedy for the purpose & to be rolled around the eye.

Collyria are of no use except in conjunctivitis, but they are often otherwise injurious. When the whole of the tissues become diseased & disorganized, & there is a tendency to suppuration or fermentation, poultices warm.

Conjunctivitis, or Catarrhal Ophthalmia.

Generally commences for the lower eyelid. If there is any irritation, such as a stoppage of the perspiration, &c. gives rise to conjunctivitis; we see at first on the lower lid, vesicles running in a striated manner from the edge of the lid, towards the ball, as it is of a uniform velocity ~~and~~ colour. The vesicles pass upon the eye, half to within a short distance of the cornea, leaving a white circle. ^{But, they do not reach the cornea (never).} The vesicles on the eyelid are ~~tormenting~~ ^{tortuous}, ingested, raised about the surface of the palpebral con-

conjunctiva, moveable under the finger, & it may be a source of irritation. If the inflammation still proceeds from the cause still existing; ~~then~~ small granules ~~then~~ appear on the surface of the lids, which produce a sensation, as if grains of sand were in the eye. They are owing to the papillary bodies becoming hypertrophied; they are never found on the eye ball, as none of the papillae exist there. There is ~~little~~ no alteration of the vision excepting what arises from the following cause: there is an alteration of the secretion, ~~then~~ there is an augmented mucous secretion, this becomes inspissated, which is thrown into the angles of the eye, by the movements of the lids, it may be spread on the cornea, giving the illusion of a cloud before the eye, but which is easily removed, by the patient passing his finger ~~over~~ over the eye. It is important to grease the eyelids at night to prevent their sticking together in the morning. There is also some epiphora, not only from increased secretion but because the transference cannot go on through the natural channels, because of the inflammation & swelling extending down them. There is no pain; there is a purgent sensation towards night, a sensation as if a foreign body was in the eye, is produced by the motion of the torturing vessels.

Prognosis. Favourable in regard to sight.

Treatment. Cured either by resolution or granulation. By resolution. - To restore any sensation which has been stopped & which had been the cause; purgation as revulsive, Locally - astringent washes.

When granulations, from the hypertrophy of the papillary bodies, have formed, they cause excessive watering & irritation, & may increase the inflammation: the vessels pass to the cornea & even pass over it, forming what is called panus. * pathognomonic of conj. inf.

7.7.42.

Scleritis.— Simple inflammation of the sclerotic.

There is a vascular injection in all inflammations of the eye, but it differs in every tissue, as do also the physiological symptoms.

In Scleritis, minute vessels are seen running from the junction of the cornea & sclerotic in radii, looking themselves in the sclerotic. They never pass over the cornea. Since other diseases have the same character of injection, but ^{the vessels} are separated from the cornea by a blue line, which they are not in scleritis. The vessels are of a general pale colour, exceedingly minute. They are more deeply seated, not near so large, &c. as in conjunctivitis. In conjunctivitis, the extremities of the vessels anastomose, &c. but in scleritis they run side by side, & never anastomose. They are larger at their ~~circumference~~ ^{extremities}, ~~that is at the circumference of the corneal extremities.~~ ^{The vessels}

The tears are augmented, & their character is changed, being exceedingly acid. The augmentation & acrimony of the tears is in proportion to the intensity of the inflammation. There is always an intolerance of light, (photophobia) (which exists in only one more disease, viz: Simple retinitis) which is probably owing to an irritation of the retina.

There is intense pain, deeply seated; when it has existed some time, or becomes more acute, it radiates to the temple, & forehead.

Treatment. Antiphlogistic & Antiplastic. Carried to a considerable extent. Collyria are of no use, but may aggravate the disease, by irritating the conjunctiva. The iris, &c. are liable to become inflamed sympathetically. Bleed largely from the general system; use cups to the temple; they diminish pain, & just in proportion as the pain is diminished the scleritis is decreased. So an anti-plastic, & at the same time to diminish pain, use Merc:ury: et Op: Bellad: aa. Under this treatment the disease will almost always terminate in resolution.

Iritis - Inflammation of the iris.

The iris is composed 7.

of three primary tissues: viz. a serous tissue (being part of the capsule of the aqueous humour) anteriorly; a parenchymatous structure composed of arteries, & ~~veins~~ veins, connected together by delicate cellular tissue; & behind this the deposit of pigmentum nigrum, forming the uvea.

~~Each~~ Any one of these three tissues may be inflamed.

1. Of the serous tissue. - There is an increased secretion of serum giving rise to tension in the eye; increased lachrymation pupil contracted slightly, but not positively permanently, as light will cause it dilate, though not so much as in health. The iris loses its colour to a certain extent, not the parenchymatous structure, but it arises from the serous tissue becoming opaque, thus masking the fundamental colour of the iris, causing it to look of a grey colour, that is, if the iris be black it will be seen through a grey medium, &c.

Diagnosis - The vision remains unaltered. There is no pain, simply a degree of tension in the ball; slight contraction of the pupil, owing to a slight irritation; an alteration of colour of the iris.

Prognosis. - As long as it remains in the serous tissue anteriorly the prognosis is favourable.

Treatment. To diminish the quantity of the blood, & the secretion. If neglected, let alone, or very intense, the iris will take on inflammation itself; that is to say, the parenchymatous portion. 132

Uveitis - now exists pure & simple, owing to its intimate connection with the ciliary body & capsule of the lens, it is combined with inflammation of the anterior capsule of the lens.

a When the parenchymatous portion of the iris ^{becomes} inflamed, a new train of symptoms arise. There is violent contraction of the pupil, owing to the afflux of blood to the part; the iris changes its colour; looking red, from the blood. It differs from the inf. of the serous tissue ante; here the tissue becomes opaque, but in this the colour is changed by the superposition of red; that is if the iris be black, ~~red will be superposed with it, & the red will be seen on a black ground~~ &c. If the inflammation still continues the iris is altered in texture, it swells, & is ordinarily thrown

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forwards, but occasionally backwards, when it is probably owing to an inflammation of the ^{ant. capsule of the lens} area, having taken place, & consequent adhesion between them. The termination of the inflammation is in suppuration; abscesses take place in its substance, occasionally opening anteriorly. The serous tunic anteriorly exudes plastic lymph, which gives the iris a cottony appearance (this can only be seen by the aid of a glass.) There is always pain, due to the irritation of the organs around it. The vision is more or less altered, in consequence of the contraction of the pupil; ~~2. to the~~ 1. to the effusion of lymph anteriorly & at the edges of the iris, which may become organized & completely close the pupil; 3. to slight opacity of the ant. capsule of the lens, from inflammation; 4. from the aqueous humor being altered & rendered opaque. The injection of the iris is peculiar; starting from a point intermediate to the circumference & edge of the iris, &c. (only seen by aid of glass.) If the disease continues, the iris falling forwards becomes disorganized, the cornea becomes involved, & the result is a staphyloma.

Treatment. * Large extraction of blood, both general & local, internally - small doses of mercury, early as possible, * ~~and~~ ~~to~~ produce salivation; ~~and~~ diminish plasticity of blood ~~with~~ Belladonna & mercury as applied around the eye.

Total repose of the eye: abstraction of light. By this treated the disease may end in resolution; but there are some other terminations. If the inflammation be stopped before the hypopyum goes to the edge of the iris, or in other words, has advanced too far, the pus will be absorbed, & the eye be cured; but sometimes the fluid parts of the pus only are absorbed, & solid flakes remain which obstruct vision slightly.

The danger of entire obliteration of the pupil is in proportion to the intensity of the inflammation.

The inflammation of the uvea which almost follows, & consequently the anterior capsule of lens, causes lymph to be thrown out, which ~~binds~~ will thus bind the iris down, & if ~~not~~ the inf. be cured, will always remain, sometimes the adhesions are so slight, that by the continued application of belladonna around the eye, they are ~~loosened~~ sometimes destroyed.

* See page 13. Iritis.

19.

Choroiditis. ^{Glaucoma.} The ~~inflammation~~ inflammation of the choroid might be simple but it is generally connected with some constitutional affection, as agouty diathesis, &c. From the difficulty of seeing the coat, it is difficult to judge the character of this inflammation. It is on very insidious. There is merely a slight grating pain felt, a slight tension; a slight dilatation of the pupil; if it continues it becomes well marked; a peculiar blue appearance will be observed on the sclerotics, which augments until it projects externally, constituting staphyloma. There is an alteration in the degree of vision, the sight is more & more obscured; the pupil becomes excessively dilated. In this state, on looking through the pupil a sea green metallic color will be seen & vision is entirely abolished.

From this inflammation, the tunica foetilis ~~increases~~ ^{increases} & ~~increases~~ ^{increases} throws out an increased secretion, from this we have the tension, &c. as it increases, & as the swelling of the choroid coat increases, the sclerotics is attenuated, the fluid pressing on it, or between its vessels, forms the peculiar blue appearance (staphyloma). The pressure of the fluid on the retina gradually paralyses it, & consequently, the gradual loss of vision, & for this loss, the pupil being rendered more & more useless dilates to a mere ring, &c. From the attenuation of the retina, we see the blue choroid, through the yellow medium: viz the humors, &c, hence we have the green color.

In the early stage this disease is susceptible of cure. It almost always depends on a congestion of the portal circle, from suppressed hemorrhoids, gonorrhea, &c.

Treatment. Same as the foregoing if rendered simple - with the exception of the local application of the belladonna. Cataplasms should be used, & consists of the portal circle removed.

Retinitis. May be either acute, or chronic. The acute is a very rare disease; it is produced, by a great light, any sudden glare, as, a flash of lightning; the chronic arises from the same & from the great fatigue of the retina, as reading fine print, watching minute objects, &c., but is very common.

Symptoms - Light pain, dimness of vision, ~~amblyopia~~ ^{amblyopia}, ~~photophobia~~ ^{photophobia}, in ^{ring} strings of mucus, drops of blood, stars, &c.

masked lachrymation.

Treatment. The chronic is more difficult of cure, than the acute which is of rare occurrence. The chronic is what is commonly called weak eyes. It is very difficult of cure, generally left to long. Blood abstracted generally & locally. Depose of the eye. It is better not to abstract the light wholly in chronic inflammation; but in the acute a total abstraction is necessary.

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Ophthalmitis should be placed here. See Page 12. in this place

A local inflammation of 1 or more of the tissues of the eye, ~~may~~ is capable of being modified by some general diathesis, either by the absorption of some virus into the system, or otherwise; hence, we have, scrofulous ophthalmia, syphilitic, &c.


Conjunctivitis carried out to its worst form, either simple or combined.

In catarrhal ophthalmia - from whatever cause, the mucous membrane becomes thickened, interfering with the motions of the lids. If this disease continues the painful sensation in the eye increases, the secretion ~~increased~~ becomes ^{augmented} & by deposition & night glues the eye lids together; very apt to produce ciliae, blepharitis & a deviation of the hairs. The inflamed appearance of the lids & the dry crust, will lead one to suppose the existence of ciliae, blepharitis, * It may be distinguished by washing the lids with tepid water, if there is a ciliae: bleph: the ulcerated lids will be seen, but if there is none the lids will look clean. The irritation produced in the caruncle of the inf: will increase the nutrition & the consequent promotion of the growth of the hairs, which are naturally secreted from it, & may become an additional source of irritation. If the inflammation goes on a step farther, vessels will be seen covering the conjunctiva from the edge of the eye lids to the corner of a uniform circular colour. In this stage the granulations, or the hypertrophied papillae, become fully developed. The secretion becomes modified into a sero-purulent fluid. The whole tissue becomes hypertrophied; there is no photophobia. If the cornea remains unaffected it will be

seen, as it were, in a depression, arising from the hypertrophied conjunctiva elevated above the edge of the cornea. The secretion which at first was only augmented, becomes modified, being exceedingly acrid, so as to excoriate the cheek; it contains some pus globules. (Plethoric Ophthalmia) which increase gradually. The upper eye lid projects forwards, beyond the lower, When raised in this stage, the matter gushes out. The disease hardly ever goes beyond this stage without other tissues becoming involved; but if it still increases without, the symptoms are greatly increased. The tissue earliest involved is the cornea, When ~~rapid~~ the disease may reach this point in from 5 to 8 hrs. Of the purulent ophth: herpes, & the pus secreted be extreme, the cornea sometimes escapes, but if small it is generally involved. It becomes softened, ~~is seldom destroyed~~, the first symptom is it ~~diminishes~~ becomes dimmed; no vessels are seen running over it; ordinarily it seems to be thickened, softened, becoming perforated, the vis falls forward & may be inflammatory adhesion to the edges; the humors may be thrown out & spasms of the recti muscles & ophthalmitis may take place. This purulent ophthalmia is contagious, it only needs the application of a pus globule.

Treatment. ~~The~~ Simple - General & local depletion; antipyretics; antiplastics, &c. carried to a full extent. Granulations destroyed by a solid stick of Sulph: Buphr: Gonorrhoical - Deplete ad deliquium animi, at first, followed by local depletion with cups. Diminish the amount & modify the secretion so that no more pus will be formed, astringents have been used, but, in the very early stage Dr. J. recommends the application of a stick nitrat's argenti to the whole surface, which will change its action, &c. Formentations, slightly tepid & antiseptic may be used, Lead water may be used. Administer drastic purges, as vomitives. Give mercurials, early, to diminish the plasticity of the blood & ^{the act} specifically. But where there is any indication of disease of the cornea, it should not be used. If it be of a pyogenic colour, during the moment the effects of the mercury are evinced, ulceration will take place. As a derivative apply a large blister at the back of neck, to be kept open with cantharidic ointment. The disease is very liable to relapse. To prevent this; ~~the~~ abstraction of light is necessary; remove granular

12. if any exist; if small of Sulph. cupr.; if purged, clip off with curved scissors, & touch with nitrat. argenti. The Sulph. Cupr. which diffuses from the applicat., will act on the puncta lachrymalia, restoring their offices.

Ophthalmitis. This paragraph should be placed before the preceding, viz see page 10. ~~in this place~~ .

Ophthalmitis. - Inflammation of each of the tissues of the eye combined together; characterized by the symptoms of each. Ejection of conjunctiva carried to a considerable degree, so as to mask the others. The general symptoms are to be relied upon. There is pain which masks the catarrhal sensation, if the ~~inflammation is so severe that the patient cannot bear the pain~~ ^{secretion} the pain radiates all around in the neighborhood of the eye; there is exceeding photophobia, generally depending on the uveitis. As the disease advances, tension becomes extreme; the pain is agonizing, even as one to produce delirium. From extension, i.e. inflammation of the membranes of the brain taking place, & he will have death from compression. As the eye is placed in an unyielding cavity, from the swelling the eyeball protrudes to a considerable extent.

Prognosis. It may be cured & resolved, but more frequently, & almost unavoidably & suppurative.

Treatment. **Indications.** 1. Antiphlogistics, a revulsion for the local congestion. Deplete largely. ~~Give mercurials~~ ^{Give mercurials} 2. To diminish pain. Give ~~opiates~~ ^{opiates} Deplete largely, & the general & local ^{narcotics} internally. Give mercurials. Locals Deplete; apply Ungt. merc. et ext. Belladon. aa. If it continues, any length of time give tart. antimon. to loose the circulation. Internally, calomel & opium, not to produce absolute phlogism, but its effects upon the blood. If the inflammation has been very great, it is almost impossible to prevent suppuration, & the consequent sinking of the whole. If there is any tendency to suppuration, evince & the ording

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symptoms; rigors, &c. Swelling of the ball, &c. If you can see through the cornea, & pus be seen; & if every effort to promote resolution has failed, you must promote the suppuration; apply early warm poultices, & when you ~~see~~ ^{find} the cornea distended, you will be perfectly justifiable in assisting the evacuation with a lancet. The moment the pus is evacuated, it will be followed by instant relief. The eye is totally lost. Granulations spring up on the inside of the shell & may make an irregular tumour. On the ~~eye~~ ^{next} stage by & preserve the rounded form of the ball; ^{in the} motion of the muscles, ~~that~~ it will form a good movable stump, afterwards.

Erysipelas, may extend its inflammation from the face to the conjunctiva.

Varicella, may extend its pustules, not only to the alimentary mucous membrane, but to that of the eye also.

Iritis.

The pain is considered pathognomonic. ~~There is a~~ ^{is a} deep gravitating sensation; a sense of tension; the pain is intermitting, generally worse towards the evening, the pain is supra-orbital, radiating backwards.

There is no photophobia, unless there is retinitis combined; there is no increased lachrymation, if simple.

Treatment of frank Iritis— It should be very energetic. Bleed to syncope at first, bleed locally, by cups as they also act as counter irritants, use hot pediluvia, sinapisms to the ankles, &c. Purges are only useful to unload the bowels, & for that purpose may be kept open. Besides the bleeding, which is antiplastic, use Mercury, to produce salivation, which will break down the crassamentum. The earlier its effects are produced, the better. Give it in doses of $\frac{1}{6}$ to $\frac{1}{8}$ gr., combined with opium every hour; in this way ~~the~~ ^{the} gums may be touched in 24 hrs. Use Ext. Belladonna & Merc. very.

around the eye; to relieve pain, & to dilate the pupil.
Abstract light, & regulate diet.

Syphilitic Iritis. It attacks the parenchymatous structure. It is always accompanied with syphilitic marks elsewhere.

Symptoms. — The inf. goes from the circumference to the center; the colour of the iris is changed; (in the blue eye, a copper colour will be seen, &c.) The pain is most severe at midnight. The form of the pupil, is often changed, it is often oblique oval, often with a little tail turned upwards, &c. The iris has a cottony appearance in front, from the effusion of lymph. Appearances, like little vegetations, are seen springing from the iris. The treatment, is the same

as in frank inflammation, plus the anti-syphilitic remedies. Mercury should be used as a specific, & not to produce salivation, as an antiphlogistic, but we must depend upon bleeding for that purpose. Use the protoiodide of Mercury.

D. Jackson's Lectures - - Oct.

(15.)

Have no simple phenomena in living being all more or less compound
than in all various relation - subject of medical study

Phenomena divided into 2 distinct classes - 1st. Radical phen
of life - organic - no living action when not present - common
to all org. structure - Organic or vital phen - emanate
or connect into a peculiar force found in living being -
not demonstrable except by manifestation in living beings
as magnetism peculiar phenomenon in certain metals - assumed
from effect existence of cause. One distinct distinctive
character - constitutive of organs - produces form - only
phenomenon telling of this force is form produced from
an amorphous blastomeres. Chemical transformation
concurrent or precedes production of form - Life creates
organs & forms & maintains afterwards - Every life action 2
distinct processes birth & death - destruction & renewal
hence necessity of constant supply of nutritive material.

Application - Draw attention to keeping up balance in health
& disease. Instances given - certain elements existing in
blood & less or great quantity & results - of heating softening both the

by attention to supply to dietetics - reprobate.
2nd class of phenom. Consciousness & Will - Intellectual
& Moral faculties - but still necessary to exist
to vital action - inst veget. lower animals. - These
highest in man. God's last work. Filoviscus demerit
- cut away whole brain in line. Life purified & things
must feed - only med. theory left. Some in man
under asceticism compressing glia - exists for many months
instance of Ast. Cooper - Sailer fell - deprotein - after
some time revived & remaining - Dementia about
Lindman same state - slow attraction of structure -
drugs, or too much intellectual activity etc - Instance
lived 6 yrs. on instinctive wants - indicators of certain signs -
3 chemical phenomena - veg mucous in living being
at present time well marked. Inst comes off
of various principles - no activity without control
introduces a action of eggs on living being -
what becomes of it - never paper out as of -
shell combine acid - eggs of carbon -
one of phenomena - of living being - also water

whether the drip or not - goes on - ~~Certain condition~~ oxygen
only ^{an} ~~irreversible~~ agent. chemical heat - which is necessary for
action - one source of heat is indispensable condition -
one best indication of state of action ~~should be~~ is count
be much below 95 - when below 80 is dying & will, 50
if count increases - range 90 to 100 - great fraction
of oxygen is arrested - certain principles not taken
in the first combination - nerve destruction is action
disseminates large quantity of phosphates - to urine - something
like brown - too rapid destruction, of same 2 cases - fixed
chemical process -

Let physical ph. Several dy - Birds 1st dynamical - only later
later extended in physiology - purpose of the development of force
which produces a power - internal muscles - contractility
a dynamic power - in death don't exist - muscles act
something external to self - force generated in art. cell of spinal
nervous - this dynamical action produces mechanical
power - force calls power into action directly internal
Lycine action - cerebral fluid action - Great amount of food
instead of 100 - now 150 - with 30 lbs. Kerosene 20 miles -

machine work - locomotion - telegraph. Hysteria
great development of force & muscles at once produced -
a feeble individual in some way not understood.

2nd Kind Physical attract - capillary ^{attract} ^{modification}
of cellular endosmosis - ^{diffusion} of factors as in lungs ^{respiration}
underlying spike of - connect up muscular system -
connect of system of leverage skeleton - motion
results works of man - 4 another plan Hydrostatics
Hydrodynamics - circulation - perform of atmosphere
brings us into contact with pneumatic states.

5th Optics & Acoustics Eye & Ear - lastly
Electrical phenomena - Musc - system acids
to that - great generation of electricity passing
from int to ext - inf - to sup - surface - what
becomes of pulsely current into nervous matter
hypothesis. Apparatus for dynamics Cerebral spinal axis
extending - Cerebrum - for conscious & volition.

Musc nerve & glands seat of chemical action
highly particularizing.

2nd Lecture - Life seat of life - 2 cl. of action - ~~and~~
an especial structure - neurine - various of form & quality
produces diff. phenomena, slightly modified of form or
type give totally diff. results. In N. system, have
diff. of form & quality - in - gray & white neurine -
entirely diff. organs - gray produces forces - white
only nerves of communication - between muscles or surface
intelligence forms consist with belly & gray
matter of cerebral lobes. Thinking apparatus - much
localization, single organ connected with

2 neurine appar. - spin. marrow - another modif-
of neurine. white ext. - gray int. - white means
communicating ends - spinal marrow, kind of telegraph
apparatus - 62 centres of power, handling from
every part of nerve system - brings to direct
to will - & according to this force is directed
to nerve system so will be the result.

3. Chem action - various kinds - some general
as conversion of albumen into the substance but
also specific, & for this have specific structures

generally minor membranes. glandular struct with
some claps - cells of glands - chem. action - as glands for
act chemically on surround fluid & fill up with
solid matter. - secretin chemical action - Mechanical
action varying structure appropriate to the muscles
& bones - M. Osmotic mass by which all mechanical
action is internally take place. intestine swabbing,
etc. some phys. action belong to all structure as capillarity
endosmosis - another common property elasticity
another phys. prop. common to all tissues.
man machine - but different from others as being an ani-
mated machine - animal machine regarded as
animal locomotive - chem. action is both source
of power - - oxidation of Carbon & Hydrogen - one - evolution
heat & ^{electricity} pushing - steam - a dynamic force increasing in
ratio of increase of heat - steam bearing on piston lever wheel
bars - combustion - - every power produced by chemical action is
advantageously - just in proportion to fuel consumed -
machine power results from chemical action - in animals much
greater than in any of our constructed machinery -

walk of 40 miles in 10 hrs. - Locusts 12 lbs 8

1103 - culms consumed from *Matensis*

Smad - - culminate - 2 7/8 to 10 in. mean
L. int. black and wauk in 2 days -

Matensis and the eggs on frogs - 1 lb. of eggs -
deposited directly upon new direct structure from
obtained 11 - of June - as steam - 1 lb 3/4

may regard but as currents of different kinds -
eyes upon specific structure - type per se this is
style light - chem. comp., physical element &
action - vary -

eyes upon has a type, structure specific for eyes
upon - form also different - excitability different
scintillating different - eyes upon all attitudes of
disturb by but except one cannot exist alone,
naturally dependent -

See

Lecture 3rd. space for ~~fact~~ manufacture - the machine
which act physically - instance Eye. Cracks penetrated into
man nature more than in give credit for. Hippocrates. Sun but not unit
from fall elements & placed in relationship with all nature -
Regarded as abridgment of universe - Pythagorean pattern - a
world within the world - Aristotle Mission enclosed
with macrocosm or great world - Not single phenomenon
^{ext} in nature which is not in action in our body - Ancient
Greeks could not substantiate their own philosophy - although
true seized upon truths of intellect - Lacked science
no proofs - Aristotle. Ecology - regarded in light of cosmic
cosmos of life - form, forms - agrees with life, attributes, etc.
while presents unity of exists - contains thousands of exists -
each sep. particle distinct & living being - Marine being
all organs not equal - pressing as in Sun & veg. Kingdom
same gradation of structure & function. Lowest
areolar & cartil - highest cerebral convol -
but little more than mesh - last seat of
intel - by which approaches in some what
to sup. nature divine phenomena.

Organic cells - joining form primary class of every
ev. type & organ form of - each a living unit
its own office for existence, organs each one
with esp. cond. form, & func - esp. office
in every - some more important than others - interest
~~in~~ inviolable, obligate, &c. By combined op. of all
every action as exists being - defended & protected, &c
New system governing ruling power - law -
deliberative & reflective - will - execution
carries out decisions determined by
reflect - faculty - Special agent & new
protected, coordination, subordination
obey & carrying out mandates of will -
Org. facts & organs - as stomach, &c - carrying
processes supplying & then, means of material
forces, &c - Blood carries purp. of whole carrying
for which each organ in health takes
materials & quantities appropriate to it
when balanced health, when disturbed
often disease -

Health & balance & conditions exist betw external
agents & int. conditions -

2nd condition & balance of power in interior of body -

Epidemic poisons, etc - influence to - ~~external agents~~
~~conditions~~ - Med. art & science - art followed out

simple rules ascert. & seen or experim. & diseases may
be treated in this way - Cause acts of body - ground

& positive laws - & may learn & experim. - here

the action as art even up to point of day - actually of sin
contingently deviation from law & intended deviation &

adapted treatment accordingly - - proofs that we

have seen do it & showing that is position regulating

- great phenom. of life - Science more law, cannot

determine ultimate causes - only phenomena -

no science can be perfect without diseases, 1st facts

got to 1st fact of life - devel. of form for material -

can do it for fine granule & carry it out, 1st -

learn develop. of nat. structure - ascertain

primary form of any tissue or organ, give

properties & phenomena - cannot go beyond -

when we study these phenom. on large scale find as in
in gen. mode - Great Law - - proof - Law of
mortality, Law of death as well as life - - -

Table - Law found to be true every where - same in
diff. populations - If table 100000 persons by - prop of sexes
born - # 85369 alive at end of

1 yr. Also persist - Law that all animals nature -

5 yrs 25799 dead - 10 yrs

50-8000 - 100 16 105-2 - found little or no variation
for these fixed rates - - - - - number of death for years from
year to year slight variation - In England - pop - 1800000
deaths in 1838 332529 - - - - - 3 - 3 - 3 -

~~22380~~ - fluctuates in regard to death every year - for
certain diseases - cholera, pestilential, &c - more common
always again - very constant - as in Pneumonia -

Lecture 4th. Movement of mortality so regular that may calculate
on number who will die & number born - only obtainable as average
of very great numbers - ~~not only given~~ This law is not only given maps
but fixed law in specific diseases - find little or no variation
from year to number of deaths in any particular disease - always
holds ratio to number of cases - Medical treatment produces
favourable results - produces little or no modification when come to
maps - External agencies have a great influence, according
to the state of the medium in which they live will they be influenced
in this respect - Natural ratios of deaths according to European
Statistics 2 per centum - When have excess over that owing to
causes that may be controlled, do not belong to nat. law of mortality -
Must find out cause & by removing it will bring the number to the
natural standard. About 30,000 unnecessary deaths occurring
yearly in England from sources of insalubrity, &c. Fixed rate of
mortality among the milions - so that living, death may flow from
may indirectly, & vice versa - according in situations more
favourable mortality - instance of statistics tables of England -
this cities & countries influence more mortality than rural
districts - Small diseases & specific diseases more frequent &

fatal in cities - very serious 5.0 per cent less ~~the~~ in country -
rural - 4.5 per cent less ~~by age~~ not much difference in kind
of skin - old age ~~more~~ more in country than city - Although they
not capable of doing much & medicine may influence just
& hygienic measures. Circumstances in which we live
gradually change & influence our system - but medicine will
prevent the attack of disease - Fixed rate of mortality
not accounted for - Cholera - Lower part influence
in production - Phil. 1873 if people - died - much improved
& external circumstances - In Birmingham about 1 to 34 died
on account of narrow streets - negro & Irish crowded population
the law - crimes - no accidents what is occurring -
living beings, ratio of births, greater number of deaths greater number
of births - so fixed as to be exhibited in districts - London -
In better climate healthier situation fewer deaths & fewer
births - in small crowded districts 1 in 36 die 1 birth to every 23
that use of medicine if true² can prevent death -
be. Rush had idea of old age being our natural outlet -
we are not self-existent, depend upon soil, soil limits
in capacity of production - if old age our outlet what would be result -

people for assistance - I mean accepted suffering - great height of art
to relieve suffering - mitigate pain - ~~but~~ may direct as an
to avoid many influences - interpreters of laws of human
machinery - not cures.

Analytical examination of animal structure -
3 stages - aggregate - analysis - synthesis - Result of each of
medium analytical condition. Examine under typical
condition under which found, etc. - Analysis enabled to as-
certain separate & positive facts which we are to study -
human mind receive Knowledge of facts through senses -
~~condition~~ reason upon facts - no revelation, must work
out of mind - Mind must be disciplined so as to examine
everything connected with facts of same character, & conclude
if constant results must be some law - ~~but~~ be
~~too sceptical, narrow~~ 2 part chapter - inorganic &
organic bodies - divide matter - ~~inorganic~~
organic bodies peculiar phenomena - peculiar matter organic
matter -

Lecture 5th. Analysis of elements of our structure - most important part of all sciences elements - necessary before can understand compounds - Senses intermediates powers - relationship with external objects - Sensibility org in nerve structure & specific ~~other~~ for every modification of the structure - 5 species - ~~any phenomenon~~ Chem & Mech - and the clasp - org. phenomenon become as this but especial set added - call them life or vitality - All phenomena 1 Phys - 2 Chem - 3 Vit - 4 Physiology or intellectual phenomena subdivided - those connected with material part & conditions statical phenomena - properties of bodies ^{structure, forms, &c} 2 Dynamical phenomena - movements - actions - matter explains various phenomena from which latter may be analysed, until reduced down that final & material being imperious upon senses, but although have escaped still infer existence - Last elements - Characteristics have determined 62 not described further, may be compared in some cases, but as yet elements to our mind because have not broken them up - Ready determined - but carry down to molecules or atoms, we infer


There exists fine center-phenomena - but senses
incapable of appreciating them - ~~proof~~ - inference from
phenomena deduced from bodies emitting in
definite proportions. Molecules not positively known
to us, a theory of mind. Being of great importance
in molecular region reside the forces which
produce phenomena, cannot have relationship of
~~the~~ molec. charged with phenomena resulting,
Muller asserts that all forces in molecules -
Kassidy says no such thing as matter ^{molecules} ~~matter~~
but force of forces - . Outline of Philosophy of Dwyther
as existence of ether around throughout universe &
Philosophy - as light permeates air is for granitic
penetrates everywhere, penetrates all bodies no
matter how solid, all ~~the~~ dynamic phenomena
proceed from this ether - transfer of caloric as
motion, higher ~~phenomena~~ movement of this ether
produces light. Colors depend upon number of
vibrations ^{& size} of this ether upon retina,
higher movement electrical & going on yet

to vital phenomena & those of intellect. Undoubtedly
cognate phenomena. No change in organic bodies without
action of molecules - molecules never existing in organized
acting in nascent state illustrated by formation of arsenic matter
Hydrogen - From constant state of action in living bodies hence
a very great variety of chemical phenomena - Not only
chemical force is thus varied but force residing in cells -
Endless form of bodies & infinite variety of phenomena
with more than combination & arrangement & grouping
of a few elementary principles. From the general laws
inferred another simple one molecular action - matter
& form always give us properties of bodies, slightest
modification different properties. Illustrating newness
Dumas phys. arrangement & form more important than
chem. properties. Instanced in transformation of arsenic
acid & phosphoric acid - Arsenic & Arsenous acid
poisoning. 00 18 chem. detected in org. matter -
only portion of them essential 4 essential C A O W
Combined with each other & the bodies no limit -
but limited in inorganic Kingdom -

Muller makes 4 elements have peculiar chem. all other limited
in power of comb. May muffs is almost immovable ways -
May comb - generally him - that - some good -
never less than ternary in oxide - per, good -
or Quin - - constant tendency to decomp. - in oxide
cuprous - depends up chem - character - none of
the elements being saturated as in inorganic kingdom.

Lec. 6th. 1 or 2 gen. props. to understand certain chem. phenomena
manifestations in phenomena of life. Chem, elem combine
always in def. prop. - subject to a few & simple laws, act in
fixed & regular manner, always occur in fixed, positive
manner - Combination always fixed: is character
same holds therefore same number of chem. equiv -
always in same prop. & grouped alike - Enters
no matter how produced when formed has fixed
character - Water found in variety of ways always
definite - Some bodies combine in dif. proportion - a
series always multiples of 1st combination - That.
First Law - 5 props. - Law of combination multiple prop
3 fixed laws - 1st Constancy of all chem. combination.
2nd how always combine in multiples

3 - law of equm. quantities - atomic proportions - Berthollet 2 ~~std~~
standard - English Oxygen - French Hydrogen - O & H - 14 & 6
etc. Combine in no other proportion than fixed ones, at the law
equm. of comp. body sum of all constituents, therefore very high
in organic compounds - there is always sum of all consti-
tuting proportions with the bodies - Keep constantly laws in
view in org. chem. of Matter 2 Kinds animal & vegetable -
3 elements to veg. tissue - products of chem. actions of plants
generally quaternary - protein compounds & active principles
these are products - tissue ternary - animal org. matter
always quaternary - 2 ad. elements - Alkali & phos. &
Sulphur - manner of grouping or arrangement of these elements
not as yet known - not under of element which give
clear idea of body but manner in which are
grouped together - Systems of Raspail Cellulose
1st of Wat. united with 1 of Carbon - const. veg. org. matter -
combined with potash gives cellulose - out of cellulose
all veg. structure comp. - animal ^{org. matter} 1 at. wat. - 1 C -
united with vol. alk. 1 at. am. - united with p. or S
gives album to fibrin - an ingenious one.

- Origin of org. matter  Q. generative generally abandoned -
org. matter, produced by a living vegetable so far as our knowledge goes -
1st. veg. of creation obtained C. from CO_2 of atmosphere - scarcely
worth of doubt - that atmosphere - almost entirely CO_2 when earth
was covered with water - present combination of atmosphere - probably
results from action of plants - animals appear as
plants to purify atmosphere - like plants - stores of coal
chem. formation of veg. matter and takes place in living
plant - therefore necessity of creation - plants not of
creation for our structure, fossils and animal org. matter -
1st. products of veg. life - stored away in seeds - water & food
from animal material out of which animal constituted
thus demonstration that veg. preceded animal world -
Plants decaying CO_2 ~~the~~ Am. takes place only under
esp. circumstance in dark light - rays of sun light not
and power of producing heat. But chem. action -
Sun furnishes all forces which produce motion
on our globe. Not only chemical force of sun -
but something - apparatus which modifies -
Animals have no power of generating any org. matter -

Animal again active limit to modifying the org. matter —
~~product~~ Animal destiny — form must never be
existing except produced in living already existing — must
have been original creation of animal — as the Harnony
animal became necessary to veg. exist. — evolution

Lecture 7th — Mond. Nov. 5th 1848 — Laws of chem combi-
4 — 1 same number of chem. equiv. 2 chem. combine always multiple
3 combining number of any compound sum of all elements — alteration —
appears 3 altering or modifying structure — Organic matter
generic substance — 2 dif. spec. veg. & an. — Presents
in diff. form or condition, 3 dif. condit. in living beings
organizable org. matter, plasma — definite in veg. — sap-
phy. sang. in blood — This material org. form or condition
susceptible of organization, possesses within itself of producing
form under certain circumstances — 2nd — Organized matter
plasma become solid & assumed definite form — specific
in each tissue — 2 varieties of org'd matter, normal & ab-
normal — (deviate from natural structure — abnormal — dis-
placement of structure) 3rd cond. — inorg. org. matter — usually
products of organic action, as secretions — bile, &c.

may be normal ^{active} & abnormal. - just tubercle &c -
(intubercle attempt at organization but failure)

Many normal products, disorg. of plasma - or breaking up
int ~~and~~ simpler form - such as Urea - lactic acid -
Ammonia & finally int simpler elements.

Plasma first source where vitiation in an. organ
takes place, whatever tends to alter or modify in any
way ultimately terminates in wrong organization & if not
rectified, so changed that, interfere with natural
course - 1st lecture of patient - mode of life, diet etc.
What is the conditn. of his plasma ought to be starting
point - your investigation. Plasma individual in
fluid state - Org. chem. directs to this ~~lower~~ food
important only if inverted, as plasma food from it
superior organized material or plasma food
from Azotized. constituents of food - 2 Parts
protein elements or azotized elements - lecture to
reconstitute & maintain organs according to
original constitution - Other portions of food

incapable of organizing - stuck for 2c - balance
temperature - equilibrium - one of indispensable con-
ditions of life - - Must be elaborated in digestive
organs of animals - Quality of plasma must therefore
depend upon state of these organs - another source
of deviation from healthy standard, according to the state of
these organs so will be the quality of the plasma. 4/10
of affecting arising from these sources - regulate quantity &
quality of food accordingly - Organizable plasma not only
required for original development, but renewal & con-
tinuance & keep up the same & hold in the
constant destruction going on - ~~Small amount~~
Supplies depend upon condition of vitality - higher vitality greater
supply and vice versa. Nature of checking supply or increasing
may modify condition - Principle laid down, plasma never
stagnating always being consumed, hence necessity of constant
renewal. ~~At~~ Errors of Plasma 1 quantity & quality -
Insufficient food supplies - Intoxicated blood - defective plasma - faulty
organizing - Spleen - blood incap. of maintaining structure of life.
Scurvy -

all

Lecture 8th. Plasma quality depends upon that of food. Food
of bad quality. Contag. means change quality render forming
Simpler changing character - Maligne Spontaneous
& Decaying plasma - animals driven with out water
very hard in very hot weather, are destroyed in this
manner - blood so poisonous that if introduced into
system of another produces gangrene & death. These
change originating from elevated temperature & want of
sufficient supply of water - Character of malignant
infectious. Typhus & blood diseases - alteration in
character of plasma. System has laws by which protects &
resists such conditions - Should aid - - can not
do it too soon, should reserve for what is called the
crisis - but if the life system prepared for resisting
study fail or do it imperfectly. In acute forms
blood changed in quantity & quality - when considering
require treatment of nature for disturbed nervous condition
arising from state of blood & liable to be mistaken
for continuation of disease -
If state of plasma is Am. & morbid - 2 states in

living being fluid & solid - coexistence of 2 states in-
dispensable to life - Vit. consists in movement, stage
when stops or at rest - death. Essential phenomenon
of life birth & death - Cannot be manifested in either
fluid or solid alone - Every living org. structure exists
in these 2 states, each equally coordinated in all the
acts of life. Humoralis & solidis - Fluid state precedes
the solid - Fluid element ^{of life}, solid product of life -

State of plasma necessarily give evidence of solid -
Organs or tissue most endowed with vitality have most fluid.
Every structure proportionate amount of solid & liquid matter
according to its organization. Every deviation an alteration
of structure, ~~even~~ too much or too little fluid - Over fluidine
have patient ~~inert~~ ^{inert}, can change direction without diminishing
quantity - revulsive symptoms, capping & lushing - Bleeding
difficult cuts off supply -

Organic constituent of Animal Economy -

Asymeric org. matter constitutes an. org. matter. Explicit
in fact produced in plate & in them alone. all an-
tifer & ager built up of it is called an. org. matter -

These special forms, propiols & constant elements
of organized structures - 5 diff. heads - 1st -
proteinic elements - A. H. C. P. ^{algin} Salt ^{Salavine} & other diastase
2 growth gelatinous collagen + chondrin - 3 keratine -
2 var. - gray ^{negie} & white ^{tuft} - 4th hematinic col. mat.
of red corp. - 5th globulin double fold & triple fold found
in inter. of l. corp. & more prob. belonging to ltr.
Lec. 9th - Proteins - Dutch chem. Mulder first discovered,
found basis of albumen, comp. of animal. econ. - White of egg, muscle,
fish, & cheese, always yielded same product - eaten raw, & con-
verted this as food. basis - ¹²⁰⁻¹⁵⁰ diffused in P. H. & precip-
itated acid - S. H. G. evolved. veg. constant food. yield same.
hence veg. products nitrog. princ. an. org. mat. - 2nd. in albu-
min. or S.H. Sol. in weak alk. & coag. with acid

Comp. $\text{CH N}_2\text{O}$ - no sulphur - as in compounds from which
obtained. Liebig, eggs ^{of fiddle} ~~impure~~ to obtain pure, entirely free from
sulphur. Mendenhall finally admitted that is some
sulphur - thought not at first because will not
blacken salt of lead. - Same is case with taurine
which contains 26 per cent of sulph. & yet will not
blacken lead. ~~Mendenhall~~ Put. com. to veg. & anim.
expts soluble & insol in water - sol. in sap juice
insol. - stored up in cells in fruits, seeds, roots -
when acid prod. putresc. disposed to solid form -
when solid alk. solub. - diff. in plants in
comb. with sulph. & Phos. Liebig first determined character
big minute & the principles in animals. Albo Leg. & fluk -
Vall & Cas & Gib - no one shown that identical, analogous -
- Put. from complex compos. cap. of great number of different combs.
Mend. from $\text{C}_{40}\text{H}_{31}\text{N}_5\text{O}_{12}$ - differs from Liebig Mend. & general
admits - - most imp. combination - Comb. with O. forms
oxide of P. Schaffer found nitric oxide always ox. more
than CO_2 given out. suspected ox. of P. - Mend. established
proof - several - 2 important in Phys. & Path -

Bin Ox. + tritox. of P. ac. to Muls. of hoil unresol.
solub - tritox - insol. Linex. - constantly forming in
Cem. - Tritox. very sol. - P. O₃ in lather - Accord
to Mulsen paper, forms organizable mat. - Apparently
from walls of cells. - Form. of Bin Ox P. O₂ Mulsen
states on the Comb. - P. O₂ very little known.
In inflam. gen. admit. in author. of Mulsen - oxidation increase
increase of fibrin beyond nat. standard pathogenesis of inflammation.
(Action of cell inc - inf - lacer - laceration) Whatever accelerate
circ - gives tend. to inflam. - Principles of Paspigne, a
tritox. of P. O₂ product of inflam. - an oxygenated product. Ox. of P. O₂
formed in one piece of Coking - dig. results as regards
digestibility - Another Comb. of P. O₂ with S. + P. - mode
of Comb. not established. In animals compound with S + P
Sile + alk. - without Phos. Cal. + G. stellin. ~~Lib P. O₂ S + P~~
~~also - P. S₂ P -~~ P. O₂ comb. with acids + alk -
with very dil - acids sol. comb. - acetic acid +
dil. Phos. except. The crescent. acids precip -
with acids as here, + with alk
as acid. applies also to all P. O₂ comb - deem

of conc. P_4O_{10} - produces a pasty mass. Different products -
artificial chem. are lying to produce matter similar
to those in org. compounds -

Dec. 10th - Mond. All. white of egg - in yolk - found
in solids - in veg. juices, in products of disease, don't exist
naturally in any excretion, in disease sometimes as in
urine. Resembles yolk of white of egg & serum -
Eaten & troops. coag. fresh but not latter. All. Coag. Shet
alkal. - tannin, coccinate & ondul. probably, electric - some fine
at both poles - at pos. pole is combined with chloro-
hydric acid from from coagula - at neg. pole with
soda - from decompos. of salt. 1/2 distinct from yolk -
liquid & solid - no chem. distinction. Shows all. may be
hard solid with coag. & evap. at low temperature. -
all. may be detected in large proportion of water - & coag -
coagulated all. presents no trace of organization diff.
in this way from film -
contains some salts, phos, all. with incineration
detained - summer temperature soon putrefies -
but if its alk. be neutralized & acid putref. does not

take place - but a black precipitate - Chem-
habits of all. comp. in medicine = liq. alk. a food is
fluid of easy union with acids & hence to form soluble &
insoluble compounds. H₂SiO₃ acid - forms blue compound -
characteristic of protein - of acid dilutes compound soluble
if concentrated insoluble - Acet. lac. phos. - soluble
whether dilute or concentrated - All. combines with alk.
salts met. & metals as an acid, some soluble
other insoluble. - Some combine inter-phos. of lime
has an intimate affair. of all. - soluble in phosphoric
- which exists in body - curried in blood & excretion.
if proportion of acid be greater it is insoluble -
Salts of earths & met. ox. - unite with all. - insol.
cryst. - acid & all. unite sol. & on the portion of
all. with the salts of earths & met. ox. - form insol.
comp. Basic salt of lead insol. with allum. -
when ulcerated comes, from contact renders opaque
from coag. the all. - altho good for sore eye without
ulceration. Bismuth of Nene - completely
precip. - a good test - & for same reason excellent

antidote - about 1 egg - 2 4 gr. of Cor. Sulf. as the
antidote. Alkaline salts render the combination
soluble, therefore must give emetics, because if passes
into intest. canal, meets with alkaline compound
& may be deposited. Med. only produce effect by entering
circulation or else acting locally, hence must be
soluble - more or less - - or sol. in water, nitric acid -
coag. alk. & render more of less insol. State of albumen
in the blood unsettled. Lec. 114

Fibrine - ~~supposed~~ ^{supposed} to be identical with albumen, though
Drummond has questioned - larger prop. of N - Fibr. mod. of albumen -
found from it - in egg no fibrine - in act of insule - is de-
graded. Especial mod. of fibrine is to render it spont. coag - in form
of fibrin. Lig. alk. & deposit fibrin - only disting. by this
partic. character - how is it formed? not understood -
Fibrin exists in chyle, blood - in plasma - also in milk & yolk
of cow & egg - when an animal lig. does not coag. spont.
does not contain fibrin - in certain diseases - blood remains
fluid & no longer fitted for purposes of living - as in many kinds
of asphyxia, poisoning - excessive heat, Spont. hemorrhages

in form of hard cheuasts - Typhus - Lowcases of Typhus.
Fibr. obtained from blood & whipping & washing. State ~~in~~
which it exists in blood - - supposed to be in state of
solution. Dumas state of exscent minute fibrin -
Müller state of solution - - may filter from blood -
fibrin separates - when in blood a short time in state
of repose - supposed to be immediate element of organization
but according to Müller tritoxide of Potassium. - Separate
inert - blood $2\frac{1}{2}\%$ to $4\frac{1}{2}\%$ in 1000 in healthy blood -
above the below this Dumas state. Consider
state when withdrawn without sphere of vitality or
even within when circulation slow & feeble,
Fibr. in coag. assumes fibrous aspect & differs in this respect
from coag. of albumen. - Cause of coag. of blood remains matter of doubt
true cause of words according to Huxley is why is it liquid
& not coag. soon it coag. - It like albumen & putrefies
in acids coag. with ac. & bases - With nitric acid
from Vanthoproteic acid - - With dil. Hydrochloric
acid like matter & dilute with water, resembles digested
fibr. of starch - if little pepsin added more complete.

acetic or lactic acid ^{or hydrogen} like. - all have been
reported to have been found - stomach - probably also used
indiscriminately. All have prop. of dissolving prot. elements esp.
with organic princis peptone - standing temp. at higher
temp. dilute acids do without peptone. Filin ~~is~~
may be reduced back in albumen - 3 gr in 50 parts
with 5 of soda & 300 water added to 100 parts of
filin, will dissolve & prevents all chem. of albumen. Duran
says will only occur with filin of nervous blood.
To make ~~of~~ filin same as albumen - 1 lb. of sulphur than albumen
(Combusts with peroxide of hydrogen & put for all other org.
substances decomposes into common water - filin undergoes
no change itself)

Caseine - In milk - coag. due to ferment - small
quant. in blood, saliva, bile, pancreas - tubercle matter,
pus, & Crystalline - most part. el. of milk - only as thick
dense of milk - cap of trans - into albumen & filin. In
reverse. Milk represents all elementary principles -
sugar rep. caloric elements - Form of sugar
to exist in 2 states. An authority of Berzelius - supposed to be solid -

when pure - soluble in milk & combines with alkali
or alkali earths - small part of alk renders large
amount soluble - Not coagulable & heat - produces
all the acids - even feeble ones which do not coag.
albumen. Coag. spont. - after standing sometimes for
production of lactic acid - for conversion of sugar -

Hypothesis concerning decomp. of casein - molecules must
disturb molecules of sug. of milk & convert it into lactic
acid - 1 atom of Sug. from 2 of lactic acid - $C_{12}H_{22}O_{12} =$
 $2 C_6H_{11}O_6$ Casein combines with alk & alk earths

without any alteration, & may be readily reprecipitated.
Precipitates ~~from~~ acid - some dye reddens -
litmus, but will not disengage Carbonic acid for
combination. Casein precip. by acids but does not
combine with them as alk & alk. - May work as acid
and. Coag. by rennet - inner mucous coat of stomach -

Berg - 1 of rennet - with 1800 parts milk but no combination -
not acid as may neutralize 3 alk. & still form. Pepsin
coag. juice - Berg - 1 part of pepsin will coag. 25000
parts of milk - Pepsin, juice - strongest tendency to undergo
molecular change - probably acts in this way in dig. - in this
way may disturb mol. of sug. of milk - Simon -
pure casein not produced without sug. of milk prevents
cheese coag. cas. mixed with oil matters of butter

chem. form nearly same as all L file no Phos.

12. Arb. gast. fluid - part of dried or recent mus. muscle of stomach
boiled - may be used at any time - 6 or 8 drops hydrochloric acid -
Lug water with little powder at temp of 90 or 100° will
digest in 6 to 8 hrs. - gluten, etc. - Hydrocl. alone at high temp
but add pepsin - lower temperature will do - Warman supposed pepsin
acted same as high temperature. accomplished in 1/2 time with pepsin
supposed in as substitute of temperature by Warman
Lieber as a ferment. Pepsin obtained from mastication M. m. S.
after washing - acetate of lead - pepsin ~~then~~ ~~some~~ ~~in~~
with acetic acid, lead then down by Sulph. Hydrogen -
(is precip. & alcohol)

Salavin - an. diastase - resembles diastase of barley -
diast. veg. princ. part. from gluten or alt. in veg. in pres. of germination
of things princ. approaches part. comp. has prop. of exsiccating changes in
starch into dextrin & then glucose or Sug. of grapes. Starchy sugar
matters disappear in pres. of dig. - probably salavin acts as the diastase.
& finally converts into glucose & enters into blood as such, coming in
contact with alk. decays into C. H. & we have heat.

Salavin said to be isolated, filtering - & treated with alcohol.

white flocc. precip. solid white or grayish mass in alcohol.
a sol in wat. or dil. alc. Does not differ
from diast. of malt - 1 part sol. cap of transforming 2000
pts. fecula. Veg. diast. same proportion —

Glycolin - agt. princip - little known - above, with hematin
= blood corp. - causing sep. water washes hem. out -
leaves glob. - ~~hematin~~ Simon reports as peculiar form
of casein -

Crystalline - Dist. corp. - hem. resembles & causes
in lens I found no other class - prepared I reduced
lens to pulp, stirred with water & heated boiling
all. coag. cyst not affected but entang. - dry-
powder treat with ether to wash out fat - if pure
etc. distilled & boiled alcohol. 100 parts of lens -
yield about 12 part -

2 groups - agt. - cleve
gelatin - but a simple mat. certainly 2. glue & size
obtained from lower skin, etc -

Sniff glass - size, serves membranes - covering bladder
milder natured parties product - 1st skin more hard than

colima^{gally} ~~ferment~~ — ferment cartilage — chondrin
+ hyaline + chondrin
1st perip. & acetic acid — gel. or var. never detected

in plate — obt. from urinary tissue — but not detected in any
of the fluids — most urinary tissue gelatinous, but none or very little
detected in blood or any secretion — Doubtful whether exists as
such in tissue for which detained. prob. result of chemical
change produced by acids & water —

pure det. 1st & 2nd & the 3rd water — (obt. from the
protein comp. — what is the mod. or change — chemical
prop. — solut. in water & heat — jelly when cold
tannic acid test — 1 pt. detected in 5000 pt. water & filtered
Kaffee — anal. crude is an. esomy — tannic acid curdles
with prot. comp. cannot be absorbed — injects in vessels
fatal — blocks up ~~by~~ capillaries. Difficult to say
how act as haemostaties when introd. in stomach.

Not absorbed. — by living gelatin in sulph. acid or constant
alkali — each makes level. glycerol — probably accounts
for sugar of diabetes when the food is excluding animals
Chondrin Difficult formula from Colim — all attempts to
detect protein in gelatin have failed & therefore mistaken

perfectly of gelatinous - incaps. of affords paper material.

but very amenable for nutrit. of cete. type -

Dec. 13th. Mond. Nov. 1848. Colin after a more
perfect degree of development than Chondrin - In embryonic
state has all chondrin & in disorganised state reticulate
& chondrin - Colin gives 8 skin; cell. type
ser. memb. tend. - lives after of fib. perm. centil
when dried - fib. cast -

chondrin - perm. cent - rudiments of fet. state -
fryer horns - cornea - ~~yellowish~~ ^{yellowish} lig

2 Oster Malaxia - white pedunc

Yellow. elastic type - blue diffused for both -
appears white more than chondrin -

Mercuric - prod. in an. economy - not existing
in veg. world. New. type composed of - very complex
compounds. Latest chem analysis - In 100 grs
since gen. adapted. 100 pts. 80 water 20 solid matter

7 pts alk - 5 fatty acids 5 phosphates, ^{but may} small trace of 9m
an 30% mazonic - Salt matter not important - 2
acids Cerulic acid & oleophosphoric acid -
Lhaan foil -

Ceruleic acid, white crystalline sol. in hot alc. & ether smells
= hot water & diffuses like starch but does not dissolve
- accordg to Krenage 3466 C - 634 N 1, 140. with
1 Phos. acid - feeble acid - approach fat acid - unite
with bases - all compounds insoluble

Oleophos. acid - ~~best~~ obtained by ~~distilling~~ distilling
out of cold ether - fluid - insol. in cold water
swelling - contains 2 p.c. phosphorus - combines with
bases like acid - alk. in ether - resolve in glycer
phos. acid - Other fatty principles no especial notice.
Phosphorus an essential ingredient in nerve structure - Shott
said to exhibit a remarkable deficiency of phosphorus in
Semantic -

In acute inflor. of brain - increase of Phosphorus
= diet eaten in the urine. accordg to M. Jones.
also ascertained that in acute delirium - proportion of phosphorus
corresponded with the violence of the delirium - if structural
In delirium tremens found to be diminished - considered
to be functional depending upon state of blood.

Sels - Nervine - 2 ~~various~~ species / gray nervousine

gang. nerve - - 2 white - med. a tube. - gray
color depending upon pigment granules - constant -
character. Microsc. changes - cells - varying in
different portions - of brain. gray nerve the substance
which compose the gang. or nerve center. & again.
Directly connected with manifestation of all nervous
phenomena. ~~Long~~ Med. nervous arranged in
tubular form - form composed of nerve - secondary -
offer to transmit to & from the center - function
papae - - Def. of Conn. & nerve - 3 factors -
give whole phys. elements of N. system -
4 groups of const. elements of nerve. Hermitian -
as distinct principle established by Dr. Wells in 1871.
in h.c. giving color - afire. with globe. how combined
not understood. from radiations of waving out finally not
originally combined - affords better Ken. & all. so put
that exceed. Difficult to separate. Lecanum - first
obtained in pure state - Simon - When pure solid, solid of
lustrous - brown or reddish black color metal. looks
in sol. in wat. alcoh. or eth. - fusible also in the min

acid - ^{with precip} - Alkali water with alkali diff. ready -
solution. Deep blood color - ann. fall & hem -
does not destroy alk. reaction. exact. prop. in w. c -
not well known - about 5% - 10% of globulin -
Serravallo valid in human for 3 to 8 p.p.t. - in human -
from diff. in col. of art. & ven. blood was assumed
to exist in 2 states - but Madden - found some properties
in art. no difference. Late researches throw doubt
whether it has an influence upon the change of color. &
prop. on hematin. salts do the same. diff. in color
appear to be more phys. phenomena - in art. blood - flatter -
concave - in veins - swollen - water swells - & becomes
black - when in art. oxygen or green - & remains - & looks ant.
result of light in relation with the change of form -
Green constituted of hematin - ~~is~~ obtained in state
of peroxide. chlorine will displace - removing color
& combining with hem. but color not dependent
on Green for my removal. Color without removing
color. Prop. of Green in blood - about 6 per cent. ~~of~~
in dried blood - what condition exists? Liebig's

an oxide - many chemists think in metallic state -
has exist in veg. King. - In a state of constant change
like the bodies - Does not enter into comp^d of any tissue
after dissolved in urine - Arteries - Chlorosis - to -

Dec. 14. Friend. 1848. Org. pure, found existing in an. serum - either
laid up - or entering into const. of sec. fluids - 2 Clap. Nitrogen
+ non-nitrog. - 7 Clap. result of chem. investigation of urine, &
~~the~~ Nitrogenous claps. 1 Cl. mat of bile & urine 2 Choleic
3 Choleic acid 4 Urea 5 Uric acid 6 Hippuric acid
7 Uric or Xanthic oxide, 8 Creatin - Creatinine - interesting
in being constant constituents in secreted fluids in
definite amount - when deviate from natural
proportion indication of something wrong in the organic
action - hence secretions index of what is going on
in org. action of economy.

1 Cl. Mat of bile & urine - Peculiar - bilephasin -
not state only in small quantity, gives brownish yellow
tint. Sometimes in dream increases & colours all
fluids & tissues - in urine gives deep reddish brown colour -
supposed to be one means of casting of carbon from body the

formation of this col. matter of found in faeces - Detected by Nitric acid -
produces play of colours from green to pink - in high colour
serum or urine may be detected in this way if exists - (Result
of metamorphosis of hematin probably) Sulph. Hyd. is found
though hematin produces a deeper colour - ^{epiase} green stools of children
probably for this cause. operation of S.H. on blood rendered probably
for researches of L. Brinton - Urine pig-degeneration of hematin -
eliminated by kidneys giving colour to urine. Urine serves in this way
like bile to depurate blood - therefore kidneys decolorizing organs as
well as liver & lungs -

2 Bile - Elements entering into ^{bile} readily decompose - giving rise to many
compounds, hence the dissident results of analysis - Berzelius & others -
say peculiar substance of bile is the bilin - white shining powder & caps.
of crystal - when all fat removed - detected in solution of fluid - Test -
also reveals Choleate of body of Liebig which he says is same thing - ^{Pott's}
This taken - Sulph. acid ripens in slough - add little group &
have instantly carmine hue. Acet. acid will do instead of
group. Faeces - contain none in nat. condition and coloring
matter but not essential principle. In diarrhoea or after measles
true bilin found in faeces.

3 Choleic acid or Bilic - Liebig & others agreed conclud
with soda is the former principle. Presents difference
in different animals - generally contains sulphur - very small
portion in pig. Chem from ~~O.H.N.S~~
48 " 43 " "

Bile readily broken up into various secondary bodies - especially
with min. acids - with Chlorhyd and acids. Taurine
also found at same time as in this body. —

Bile - then Choleate of Soda - with coloring matter
Urea - characteristic of Urine - definite amount
of solid mat. in state of health - varies exceedingly in state
of disease, more than any other fluid. Urine in healthy condition
every 24 hrs. - 270 mean discharge of kidneys $7\frac{1}{2}$ gr. uric acid -
average of several hundred exam - Result of destruction
of nitrogenous constituents of food - amount given measure
of destruction of nit. elem. of economy - Nitrogen in this
way discharged from economy - & enters into compounds of
secondary compound Urea. ~~Urea~~ 800 gr. more than
sufficient for the Urea - 15 for the uric acid. Urea not
formed in kidneys, exists in blood. —

Mon. Nov 27th. Lect. 15. Simple method of taking spec-
imen of urine or other fluid. av. quant. of mean good rid of -
= 24 hrs. 270 grs - ^{from 3 to 7} $7\frac{1}{2}$ grs uric acid. Urea not product generated
in kidneys only separated from the blood. Urea + uric acid first detected
in blood - difficult in state of health, because of constant state
of action - but when kidneys exterminated or in certain diseases
when function of kidneys prop. perford - accumulates in blood,
found in dysuria - urine not secreted - get uric to patient - in
cases of absolute suppression apt to be fatal - poisons ac-
cumulated on nervous system - lie in coma or convulsions -
in cholera albidus + brights disease found in blood - in cholera
~~Urea contains~~ albidus suppression for water escapes at some
other place.

Urea contains more N than any other org. material. When
pure - cyst - white 4 sided prism - in kidney voided of other
materials in form. $\text{C}_2\text{H}_4\text{N}_2\text{O}_2$ - a Cyanate² of Ammonia -
decomp. yield Carb. ammonia - sometimes immediately from bladder indicates
disease - present for decomp. probably - Can be made artificially.
Close relation between Urea + Uric acid. In some forms of disease +
some constitutions even in state of health. have uric acid
predominant + Urea deficient. Occurs in Rheumatic gout,
probably depend upon the production of this substance - +

pain on its existence in blood - here alkalis used -
which also wears out - In hereditary stricture - Descent of
Gouty progenitors. Have ^{heredity} neuralgias as substitutes of gout -
probably - 50 Now 100 years ago - depend on hereditary
facies. Hence my control of alkaline remedies -
fixed neuralgia gave diff. character - Animals present
great diff. in ^{kindness of} Disorganization of tissue - in furie rage
with little urea - Birds, serpents, insects with
acid. Food makes no difference - Stricture -
man varies stricture all urea & no H. acid & vice
versa. In epides gastric oxide stricture in man -
B Ratio between kind of food & amount of urea -
When kidneys exterminate - urea accum. in blood - becomes
very serious - results of Pseudotubercle ^{Pseudotubercle} - change of secretion
for al. canal - esp. stomach - instead of stomach intermitter
as usual contents sent to lungs of urea -
thereby added an ammoniacal salt
3 Gastric juice retained acid & dig. properties
4 elimination of urea for M. M. al. as long as animal
active - when laid up, ceases, & accumulates in blood.

Bernard & Bainsville. - mean as such in blood - ammonia salt
result of contest of secretion of stomach.

Uric acid - common constituent ~~parts~~ for 3 to 7 grs. in 24 hrs
found in all urines - in urinary calculi - gouts concretions -

effluence in gouts joints in some individuals - never has
been detected in blood - but ^{has} - soluble & sweet. Keating
insoluble in cold water - slightly in ~~hot~~ warm water -

hence appears as sand in urine when in a little excess -

crystallizing in form of white scales - sol. in nitric acid dissolves
yellow pink ammoniac reddish purple. Forms numerous
salts ex. its as in urine - Liching thick in form of the soluble
urate soda in urine. - Leva gives alkaline when
uncombined diathesis - Behaves for time like, but does
not remove disprop. & form.

Uric diathesis & in many manners - sometimes tormenting
in young children - well to look at urine often find excess
in urine -

Riparian acid - principal ingredient in granular urines -
often in human urine - Benoit converted in benzoic
& vice versa - Dr. Wm.

Lecture 16. Tuesd. Nov. 28. solid mat. cont. of urine depend
upon quantity of nit. food & amount of exercise. In disease
fluctuates, vary. — May be increase of water in that solid
contents — & may be increase of solid contents with or without
increase of water — In many nervous diseases after a
great deal of water — G. B. Ford, found special diuretics merely
increase water — a. digitalis, squill, asclepias, juniper,
ginseng, diminish water, element of blood — hence more dense
and the claps increase urine sometimes not but always
increase of solid constituents — have influence on
increasing disintegrating action of economy. Type
of lowest vitality gets first — ~~solid~~ solid const. —
of urine increased — all these operate on purine
compounds out of the body. — alkalis, & alk. salt to
20. prob. to one of their character. Extracts with
of urine Creatine Creatinin, probably resulting from mus-
cular decomp. as found in muscle fibres. — Long known acid
matter in muscular substance, known now as Creatine

Liebig detects 1. Creatine 2. Gossic acid (lactic acid, & phos-
phate) & salts of Potash found in muscular solids

1 Creatin found in all flesh, found most in fowl. Heart effluents
more creatin than any the muscles. Has no basic properties
2 Creatinin result of decomp. of former probably & presence
of acids (Both found in urine - very analogous to Ammonia -
1 soluble in alcohol, the other not. Both nitrogenous -
3 Inosinic acid - from muscle - strong acid reaction
& agreeable taste - Probably result of destruction of nucleic
substance or would not find it expected from coming in urine.
These 3 detected in no other tissue than muscular. Intermediate
between Purine comp. & Urea - the 2 may be resolved partly
into Urea. Inosinic acid never found in urine, readily
converts in Oxalic acid & Acetic acid, & Urea.
Cystine - In urine of pregnant women - Pellets on
the standing urine - ~~Contains~~

2nd Division again consists - nonazotized).

Sach. substance - Lactin & Glucose

1 Lactin Sug. of Milk - Constant in milk, not detected in blood.
product in egg, during incubation, some lactin developed - also been detected
in some milk products - usually procured from Whey of milk.

Properties - white, crystalline. Sol. in water, does not

from syrup - ~~soluble~~ soluble in alcohol - does not ferment - does
not melt at high temperature - Lactic ~~acid~~ ^{acid} ~~is~~ ^{is} ~~not~~ ^{not} ~~formed~~ ^{formed}
& entered into m. m. under certain circumstances.

² Diabetic sugar - glucose of veg. Kingdom - may be
found artific. & transference of cane sug. lignin, lactic, or
starch by Diast. in Sulf. acid.

Diastase also converts starch into glucose - Diabetic
sugar white - no odor, crys. - fusible, not so sweet as cane
readily ferments - in fact any carb. matter which does
ferment. Found in urine in certain cases *Di. mellitus*.

Mon. Dec. 4th. Lect. 17. Starch transformed into
fatty matter - Food of plants - contains pine of oxygen -
starch converted into same manner decarboxylation with a
small increase of Hydrogen - Not only decomp. of C. acid
in the plants but also of contents of the tissues. Are not
animals capable of forming fat in their own economy? Is a process
analogous to that which takes place in vegetables? yet
undecided - James Bown. is - content that all fat of animals
found & veg - Lillie & all school take opposite & finally
more correct view. of subject. All strictly compounds which

contains an exceedingly minute proportion of fatty matters, yet -
~~fat~~ are used for fattening & produce large amount -

found that fat is excreted & milk more than in the food of the cow.

Conversion of ~~fat out of organ~~ ~~210~~ ~~the organ~~ ~~suffered~~ sugar into
wax - Some animals have peculiar fats found in animals alone
cervine - Serpentine - etc. ~~Then some belong to some~~

animals alone - Cetine - phoscin - Lin goat - Production
of fat in animals - may be produced from protein compounds & their
degeneration - Has been found in fattening the gause for Pate before
blood loaded with fat & loss of its albumen. out of body -
in lactates - file to convertible into Bontz's acid - Upon which
particular circumstances converted into adipose -

- Existence of fat in food - in the food generally margarine
& olein - rarely stearine - in goats have wax - no
action upon them in stomach - in rodents described & converted
into Margarine & oleates of soda - takes up 5 villi - found in
blood as margarate & oleates - partly built up & consumed in
purposes of respiration - quantity does not undergo process &
build up but not as margarate & oleates but as olein
margarine again the neutral fats - not understood -

specimen in intest. canal not accounted for. Where does it
come in fact of type? not known. Another process of changes
in animals - in sheep tissue - mostly steaming & hence
may be olein of food is converted into steaming - mass
into steaming & becomes marg. & olein. In neutral
state stored away - adipose tissue - description of tissue -
fatty matter much stored away - either will dissolve it
a fuel stored away - entirely adventitious to carry account
to view of John Hunter - Physiology uses - substance more
than single purpose. View of purpose - protect kidney in
blow falls - sometimes necessarily injure of blood - after
use as carrying - non conduct of heat - fat persons
generally not so susceptible - another animal - most
important means - an combustible material for
production of temperature without consumption of
tissue important to life - first element of life
& stimulation, taken up in manner of industry.
If not existing - in resp. then the tissue - especially the
soft ones - musc. muscles - sooner than musc. sp. &
hence - Dissection of pulm. m. m. atrophy of al. m. m.
one other purpose - serve probably as vehicle of removal of protein compounds -

use of Cod liver oil explained in this way - - casein & egg. albumen -
render soluble & it. Milk

Tuesd. Dec. 5th 1848 Lecture 18th. Fat stands at head of
list & supplies temperature of body - ~~also~~ also. starch -
~~can~~ sugar - flesh least. Hence feeds upon the most
gross fat - in northern regions - Intuitive - Often strong instincts
of economy demanding particular forms of food - Insinuated
that render soluble certain protean compounds - when
casein ballance in contact with glucose converted into
lactic acid at sometime deformed - Used for Insulin &
Lecithin.

Pathological States - ~~the~~ Mottled deposition
of fat - in certain ~~diseases~~ states of economy - as ~~in~~ where
deficiency of oxygen in feeble constitution - Fat in
Kidneys - Bright Disease, when exists arises from conversion of deposits
Change of albumen into fat aided by affinity of C for H. -

One form of atrophy degeneration of tissue into fat - generally
more or less local - excepting senile fatness - enlargement
of liver often from this - in muscles - heart, &c.

No relation between obesity of health & the mottled ac-
cumulation which frequently takes place, in former no

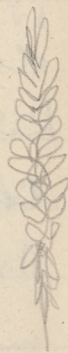
degenerative of life, while in the very much so -
Most usual in liver cells - found in Kidney cells
in t. of muscle fibres. in nerves - in neurones -
in tubuli seminiferi - Cancer growths ^{they set well} often degenerate -
In these instances not derived from blood, but from
the conversion of structure itself. Fat degenerates
for diminished ~~of~~ organic power & deficient supply
of oxygen.

Non-saponifiable fats - 1st Cholesterol -
1st Occurs in bile - in healthy state small quantity -
in some path. cond. functional & org. of liver deficient
in quantity - widely diffused in human & animal marrow,
blood, often in deposits, often in solid structure -
often in tubules, &c. found not in veg. ~~Some eggs~~
generally eggs exist in state of fluid - Pure
crystals

2nd Lecithine - In serum - not much known -

Last group of non-soluble substances

1. Lactic Acid - not found in blood, milk or urine, or saliva
but Liebig lately found in juices of flesh disc. of Bezelet's



Thinks a part supports of resp. supposed to be enclosed
found & dissolved in blood. Lactic acid exists in joint
fluid. Coloured fluid - very soluble in water -

2 Uric acid - not natural constt. occurring from
combination with lime in urine - not known how formed.

Wed. Thurs. 7th 1848. - Simple inorganic bodies
certain ones necessary to organized beings - Exist.
in solid & liquid - preserve all characters of inorganic
bodies even in the living body. -

3 states: 1 Liq. 2 Gas - 3 Sol. - alk. cathe alk. & met -
1st. most imp. water - Importance of water in nature -
Chem. comp. imp. of life existing without it. Lower animals
& plants live up but requiring in suppl. of water. ~~the~~

Largest constituent of animal organic structures - Guarantees
connection with all relations of living organism.

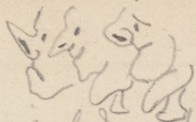
Physiol. relations to an. economy - enters in construction of
tissues in definite proportion - tissue once formed -
elastic & cap. of motion to it - Solvent of all organic
constituents - ~~in the fluid state~~ supplies tissue &
dissolves the disintegrated portion. Vitality - activity

in proportion to the molecular action in the tissue & water
most abundant - hence is going from air into more water.

In sev. forms - liq. vap. solid - necessary ~~to life~~ in atmosphere
to preservation of health
absolute Symp - premature old age - Primitive ingredient

of all fluids of body. stationary or moving. Every organism
constit has def. amount - by its quality of indifference becomes a
universal solvent. without change - Solids in solution bodies
of most various nature, as in blood. Cap. of taking up not only
again constit - but many bodies of external world having no relation
with body frequently introduced into system, giving rise to de-
rangement - Disease. Sense of thirst arises whenever
deficiency of water in blood, & unless supplied becomes
so intense that violence will be resorted to - hunger
may be resisted & not thirst -

2 Chem. relation is equiv - combines with ^{constit} in def. prop -
1 2 3 4 - Hydrate - Chem. elements in nascent
states endow'd with highest power of reaction - when
water decomposed is equiv transform'd of all ~~constit~~
constit. in sphere of action, source of most ~~and~~
chem work. in animals & veg -



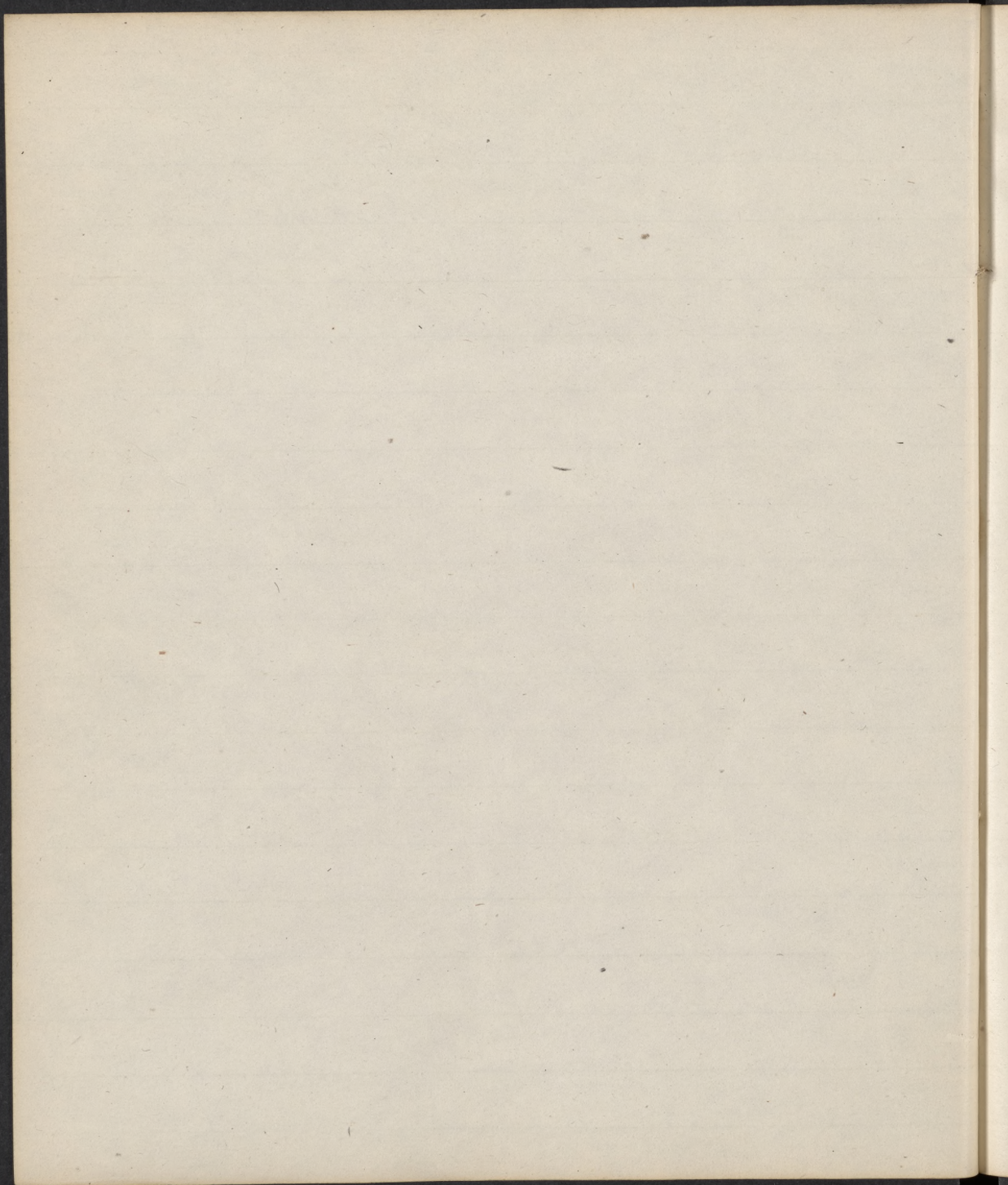
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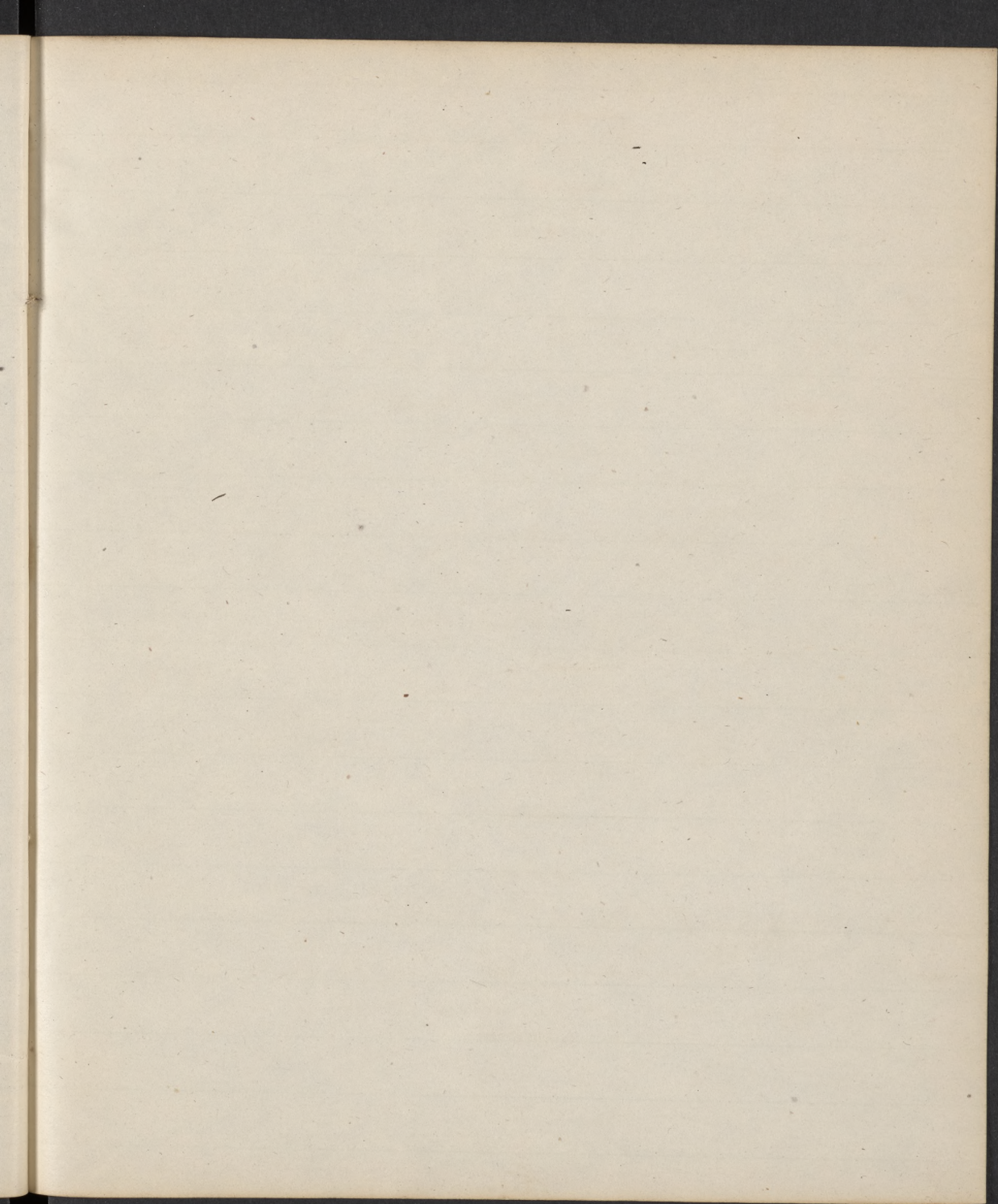
Enter into our food & drink - seldom pure - for its porous
advent properties - Alk & earthy salts most usual imp -

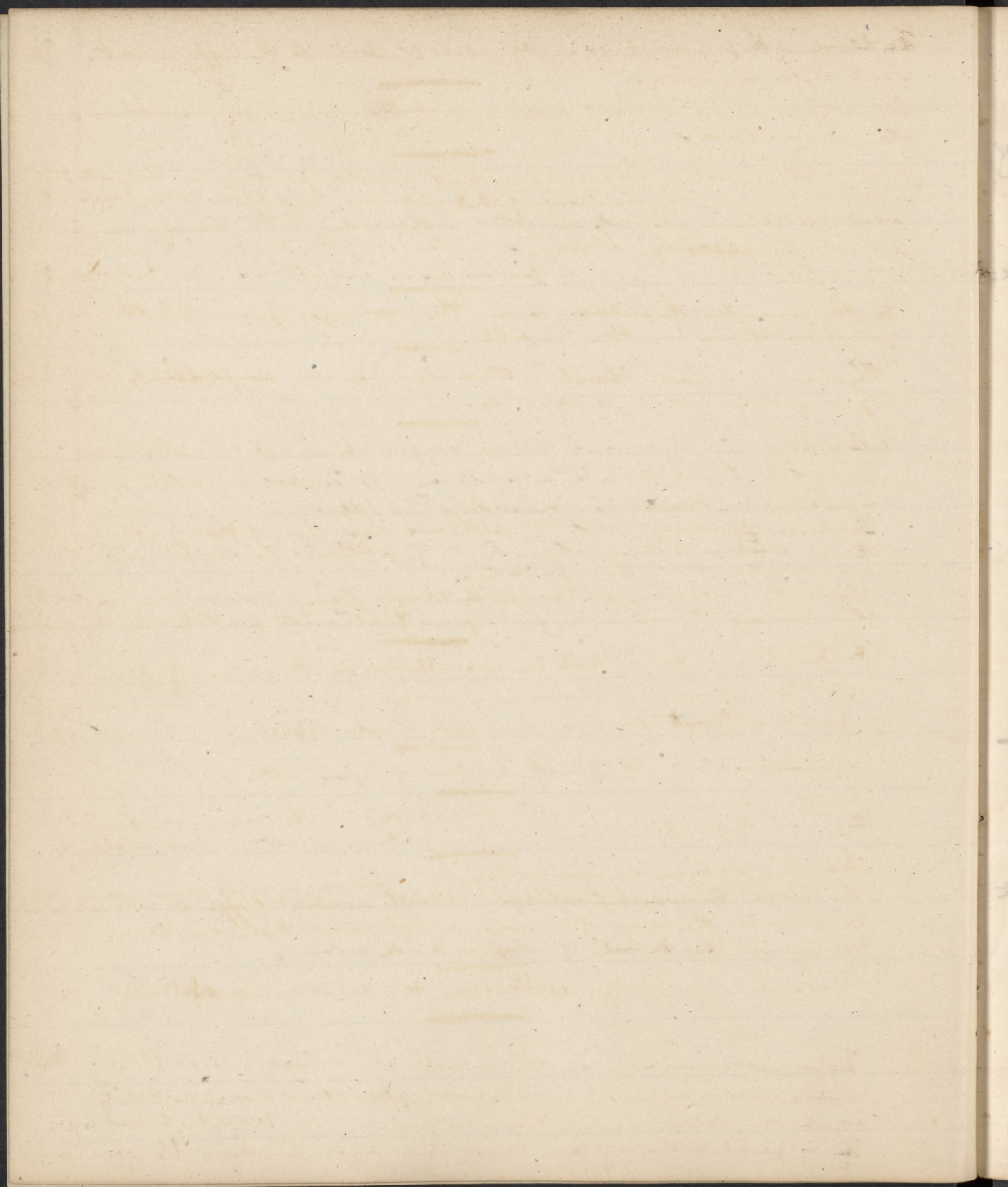
These are generally the impurities consist of our
body. - Generally Soda salts most imp. of alk - Air
constit of ear - it is this which renders agreeable to
taste - when boiled - insipid - water dissolves - but
~~more~~ of the air of water has more of. than in atmo.
Ox. equiv. in stomach with food.

3. Hygienic relation - Pure water indispensable to
health - if certain principles exist in to great quantity produce
derangements of health. 1 cause of Scum - putridity of water -
Our tanks have corrected the whole of this. Full supply
of pure water necessary to health - 2 In Children albugo
much reduced - water relieved temporarily in remarkable
manner but does not cure because does not remove
cause of copious water -

4. Therapeutic relations - Primary remedy for large
proportion of our diseases, old as Hippocrates







The blood of the pregnant female usually presents the buffy coat. It is not inflammatory.

Absorption is unusually active at the time of secretion from the mammary.

Blood-letting pushed to a great extent will produce irregularity & irritability in the action of the nervous system, & in this way local determinations are often induced by the very means employed to ~~obviate~~ them. Cause of this kind - to relieve the nervous irritability, use pinus as a sedative. See J. Thompson P. 314.

In the female, the pulse is on the average from 5 to 10 beats quicker than in the male.

Physicians have lost "attendance on patients" for having forgotten idiosyncrasies.

Climate. - Tendency to bilious complaints in hot climates, while on the other hand there is a tendency to inflammation of the bronchial mucous membrane, &c.

Persons predisposed to phthisis are benefited by removal to a warm climate, but if phthisis be confirmed the removal may be fatal.

owing to nervous susceptibility being induced in hot climates, they are unfit for patients predisposed to mania.

Dr. Sympson, "says" that he has allowed the use of ice-water after the administration of calomel, in fever, for several years past without any evidence of bad effect.

The stomach is the great "centre of symp. affs."

Medicines which are absorbed, seek out the organs on which they act by preference. This selective affinity is inscrutable.

Alkalies, or their carbonates given for a long time, render the blood thinner; whilst directly contrary effects are observed to follow the use of acids - the coagulation being made firmer, & the blood of a deep, a dark colour.

Mucous fulness, exethism, &c. retard absorption.

Flatus accumulating in the intestinal canal, & distending the muscular fibres, produces exhaustion & incapability to expel the flatus; hence there is pain, as in flatulent colic. If in such a case an aromatic or carminative be given,

the excitement which it produces in the mucous coat, & contact, is, by contiguous sympathy, extended to the muscular coat, which is raised to greater action, & the feaver is expelled.

Tonics. Probably act, & exert their effects, either directly or indirectly, on the nerves of the stomach; whence the tonicity irradiates, by means of the nerves, to every part of the system. Some probably act by being absorbed; acting upon the organism through the altered character of the blood in the capillary blood vessels, &c.

Tonics may be given with 2 views;— 1st, to make a decided impression upon the nervous system, so as to break in upon a chain of morbid phenomena that supervene in paroxysms, as in intermittent fever; 2nd, to produce their silent but permanent operation for the removal of debility.

The same form of preparation is not equally adapted to the two cases. The same form of preparation is not equally adapted to the 2 cases. In the former the Lignum or wood of matter may not be objectionable. On the contrary, it may assist the operation of the tonic principle, by exciting a new action in the nerves of the stomach; but, in the second, when the powers of the system are prostrated by protracted indisposition, the vegetable tonics, in powder, cannot be administered with propriety, as they are apt, by reason of the indigestibility of the Lignum, to occasion great derangement of the stomach & bowels, & sometimes irritation fever. At other times, the mucus will accumulate in such quantity, in the alimentary canal, as to be discharged, for several days consecutively, by the bowels.

Excitants, or diffusible Stimulants, are useful when stimulus is necessary, a short time only.

Impassions of a gouty diathesis, when attended with violent pain of an spasmodic character in the stomach, * one of the most diffusible excitants, by producing a new action in the nerves of the organ, combined, or not with narcotics, often give relief.

In cases of great irritability of the stomach, especially in the vicinity

* When no signs of an inflammatory character.

of pregnant females, a genial effect is produced on the stomach, by the new action, which gently excites occasion. Sinapius are useful. Of course where there is inflammation, these agents are hurtful. In these cases we use narcotics as palliatives, & excitants externally as nervines.

In constipation, attended with ~~loss~~ ^{impairment} of digestive function, & no inflammation, the addition of an aromatic to a cathartic is beneficial; stimulating the muscular coat, & acting as a corrigent to the cathartic.

Great care is requisite in giving excitants in low fever.

These good in atony of the vessels, from previous inflammation.

They are improper ~~where~~ ^{where} hypertrophy or superabundance of the heart exists, as indicated by strong impulse, dull percussion, &c.

In hysteria, frequently given to excite a new impression. Narcotics are given generally (antispasmodics)

In epilepsy, chorea, ~~tetanus~~, neuralgia, &c., tonics are used, as the excitation of the diffusible excitants is not permanent enough.

Excitants are useful in paralysis, especially when local. With this view nuxa, ^{digitalis} alicia, &c. and strychnine, &c. are used.

In topical inflammation on surface of body, useful. To diminish sensibility of certain nerves, as toothache.

Tonics. We trust in them implicitly, in the apyrexia of intermittents.

In the remittent, the nearer it approaches the intermittent, the more beneficial will be the action of tonics. During strong inflammatory period, rely upon antiphlogistics; & as there is a strong disposition to hyperemia in some important organ, they are used to a greater extent, than in cases of simple fever. However, in light malactions districts, & not exhibiting any highly phlogistic character; quina may be used early.

Tonics have been beneficially used in arthritis or acute rheumatism. It is better to use antiphlogistics, with them.

Useful in scurvy, & in febrile affections, &c. where there are strong evidences of a passive hemorrhagic tendency.

The mineral tonics are employed in many of the neuroses, & with benefit, when they are not organic.

It with benefit, when they are not organic.
In cloaca, combined with cathartics, ~~they remove~~ the torpid
state of the canal, which prevails in this disease, they
are very useful. (mineral)

are very useful. (mineral)
In neuralgia - as in the ~~douloureux~~ - one of the most
successful remedies, is, Carb. Ferri. 30 or 40 gr. twice
or thrice daily, for a month or two.

Bitters, &c. are all anthelmintic.

Am gangrene tissues are useful.

Exercise is tonic. (If hyperaemia exists, exercise may increase it.)

Confidence & hope, are tonics.

In the countries.

Climate, age, &c. are predisponents to insensibility. The preparations of turpentine, are, among ~~the~~ the most detrimental to entozoic ~~system~~ existence of the sublesters with which we are acquainted.

Salt is a useful preventive against entozoa.

"^{*}Ecto⁺zoa" remedied in the same as "entrozoa".
^{*}larvae introduced by accident ⁺formed in the body.

*larvae introduced by accident

+ formed in the body.

Table

of Poisons and their Antidotes.

There are 2 classes: Class 1st - Inorganic poisons:

1. Acids
2. Alkalies & their compounds.
3. Bromine.
4. Earths & their compounds.
5. Empyrenmatic Oils.
6. Ethers.
7. Gases.
8. Celap or Enamel, wounded.
9. Iodine.

10. Metals & their compounds. 11. Phosphorus. 12. Salts.

Class 2 - Organic poisons.

A. Vegetable.

1. Lero. maritima.
2. Viridula.
3. maritima.
4. Proximate Principles of Vegetables.

B. Animal.

1. By change in constitution, ~~etc.~~ or disease
2. Fishes.
3. Insects.
4. Serpents.

N.B. Virulent poisons marked thus. + Indigenous plants, ?
Exotic plants introduced. #. Antidotes, ~~etc.~~

Class 1st

Inorganic Poisons.

1. Acids.

- + Acidum Aceticum.
- | Δ Magnesia lith. carbonat.
- + — Arseniosum.
- + — Arsenicum.
- | Δ Hydrated Sesquioxide of Iron
- + — Citricum.
- + — Tartaricum.
- | Δ Carb. lime or potassa.
- + — Hydrochloric.
- | Δ Carb. Soda.
- Hydrocyanicum.
- | Δ Ammonia. Chlorine, (Riquet).
- + — Nitric acid.
- + — Sulphuric acid.
- | Δ Carb. lime or Magnesia or Magnesia
- + — Phosphoric Acid.
- | Δ Carb. lime.

II. Alkalies & compounds.

- + Ammon. liq.
- + Potassa.
- + Soda.
- | Δ Fixed oils. Vinegar or lemon juice.
- + Arseniates & ites of the alkalies.
- | Δ Hyd. sesquioxide ferri.
- + Potassa bichromas.
- | Δ Carb. of potassa or Soda.
- + Carb. Potassa or Soda.
- | Δ Lemon juice or Vinegar.
- + Potassa Sulphuretum.
- | Δ Chloride of Iodine.

IV. Earths & their compounds.

- + Baryta, or carbonate.
- | Δ Dilute Sulphuric acid.
- + Baryta murias or Nitras.
- Sulph. mag. or S. Soda.
- + Calx.
- | Δ Carbonic acid as in artificial mineral or Soda water. Efferv. dephos.

V. Empyematic Oils.

Creatine.

1 Δ Albumen.

Oleum Cornu Cervi Empyem.

Oil of hartshorn, Duffell's animal oil.

1 Δ Fixed oils. Lemon juice. Vinegar.

VII. Gapes.

+ Chlorine.

1 Δ Inhalation of ammonia a little.

+ muriatic acid.

+ Nitrous acid.

+ Sulphurous acid.

1 Δ Inhalation of ammonia cautiously.

+ Sulph? Hydrosulph.

1 Δ Inhalation of Chlorine cautiously.

IX. Iodine.

Iodine.

1 Δ Gluten. Wheat flour. Starch.

X. Metals, & their Compounds.

+ Antimony trichloride.

+ ——— Oxide.

+ ——— in st. Peps. Tinctures.

1 Δ astringent infusions & decoctions.

+ Argenti Nitras.

1 Δ Chloride of Sodium.

+ all preparations of Arsenic.

1 Δ Hyd: sesquioxide of Iron, excepting for the sulphurets.

+ Nitro-muriatic of Gold.

1 Δ Sulphate of Iron.

+ nitrate of Bismuth

1 Δ Milk & mucilaginous drinks.

+ acetum Cupri.

1 Δ albumen. Sugar. Iron.

+ Cupri carbonas.

+ ——— Oxidum.

+ ——— Sulphas.

1 Δ albumen. Iron.

+ Muriate of Iron.

+ Sulphate ———.

1 Δ carbonate Soda.

+ Hyd: chlor: cor:

1 Δ albumen. Gluten.

+ Chloride of Platinum.

1 Δ ammonia (mucias).

+ Acetate of Lead.

1 Δ Sulph: Soda, of Magnesia, or

Phosphate of Soda.

+ Carbonate of Lead.

1 Δ Dilute Sulph: acid.

+ Chloride of Tin.

1 Δ Milk.

+ Sulph: Zinc.

1 Δ Sulph. of Magnesia or of Soda.

+ XI Phosphorus.

1 Δ Copious draughts containing magnesia.

Those inorganic poisons which have no antidotes are not mentioned.

Clap II. - Organic Poisons.

A. Vegetable.

I. Acro-Narcotics.

- *Aethusa Cynapium*. Common Fool's Parsley.
- *Aconitum Napellus*. Monkshood.
- † *Atropa Belladonna*. - Deadly Night Shade.
- Cerbera*, (3 species) - *Cerbera*.
- Cocculus Indicus*. Fish berries.
- Colchicum autumnale*. - Meadow Saffron.
- *Conium maculatum*. - Hemlock.
- ~~*Cyatium Laburnum*. - *Laburnum*.~~
- *Datura Stramonium*. - Thorn apple.
- Ephedra speciosa*. - *Ephedra*.
- Scilla maritima*. - Squill.
- Strychnos Ignatii*. - St. Ignatius's Bean.
- Strychnos Nuxvomica*. - Nuxvomica.
- *Veratrum album*. - White Hellebore.
- *Viride*. - American *Veratrum*.
- 1 Δ Antidotes. Colchicine. Bromine. Iodine.
- Bucca Antidysenterica*. False angustifolia bark.
- 1 Δ Bromine. Iodine.
- Curare, Indian war poison.
- 1 Δ Common Salt. Sugar.
- † *Digitalis purpurea*. Fox glove.
- 1 Δ Infusion of Yellow Bark.
- *Enanthe cicutaria*. Hemlock dropwort.
- 1 Δ Infusion of Galls.

II. Britants.

- Brionia divica*. Bryony.
- Convolvulus Jalapa*. Jalap.

**Cucumis colocythis*, *Colocyth.* — *Delphinium Staphysagria*. *Stavosac.*
Euphorbium officinarum. *Euphorbium*. *Spurge.* — *Momordica*
Claterrim. *Squirting cucumber.* — *Plumbago Europaea*. *Brotherwort.*
1 Δ. *Bromine*. *Chlorine*. *Iodine*.

III. Narcotics.

Hyoscyamus albus. *White Henbane.* — *H. niger*. *Black Henbane.*
◦ *Solanum dulcamara*.
1 Δ. *Chlorine*, *Bromine*. *Iodine*.
Opium & its proximate principles.
1 Δ *Infusion of Galls.*

IV. Proximate principles upon which the activity of the
following depend. *Scammonia*. *Strophia*. *Brucia*,
Codaria. *Colocythia*. *Datura*. *Delphinia*. *Claterrim*.
Emitina. *Hyoscyamia*. *Morphia* & *Salts*. *Narcotina*.
Picrotoxia. *strychina*. *Veratrina*. *Colchisia*.
1 Δ. as above. *Chlorine*, *Iodine*, *Bromine*.
B. *Animal*

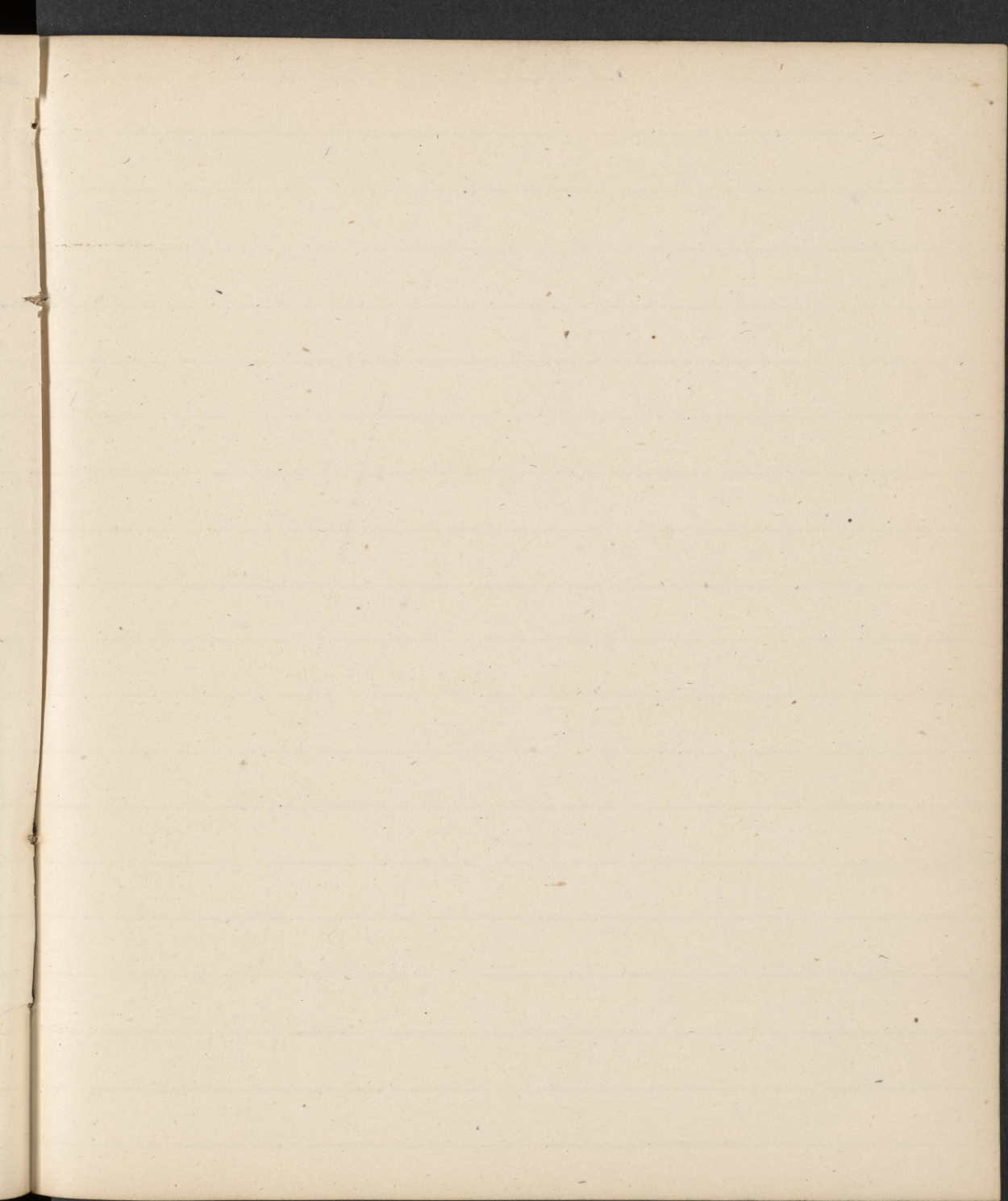
III. Insects.

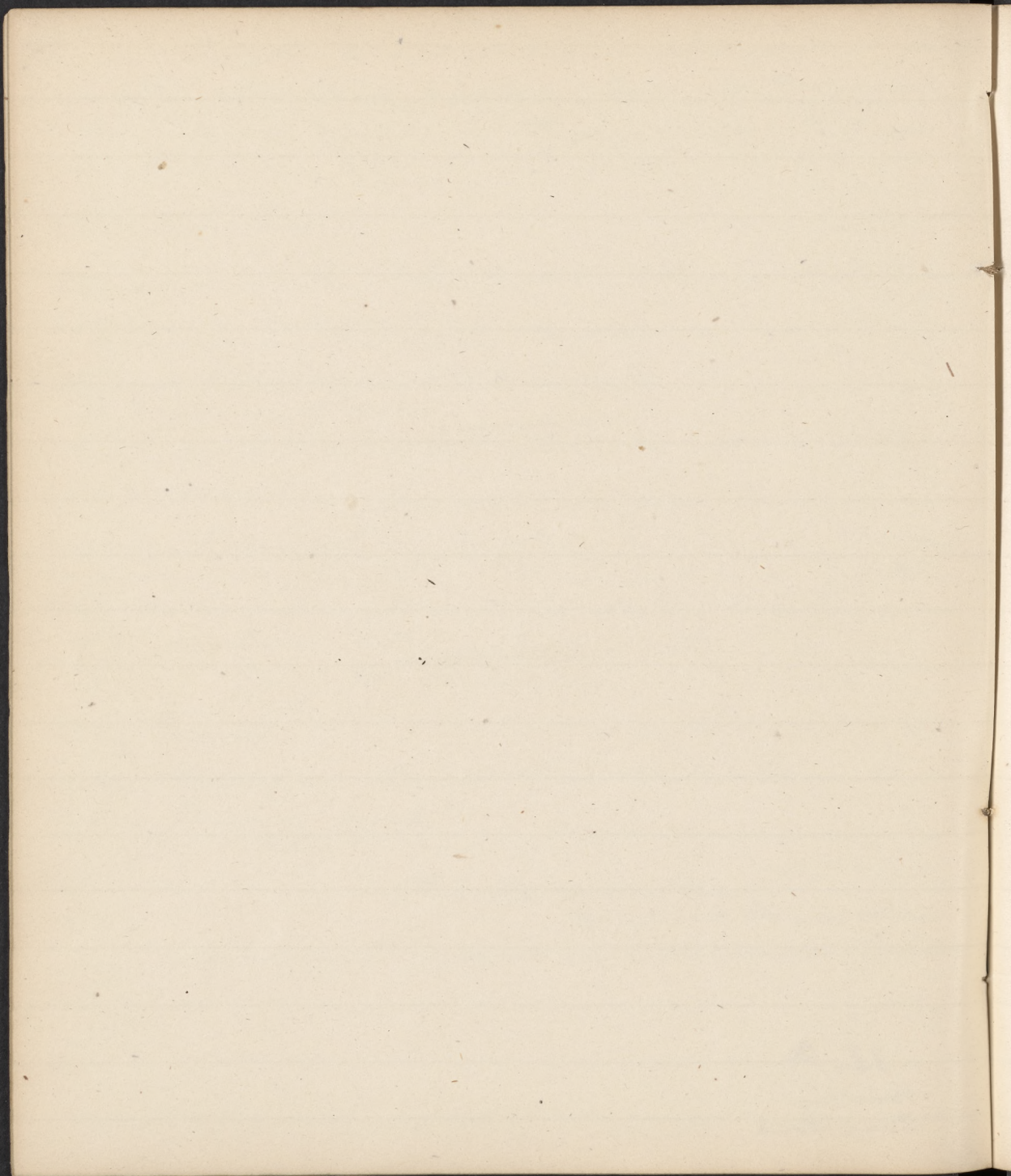
Apis Mellifica. *Bee.* — *Vespa Crabro*. *Hornet.*
Vespa Vulgaris. *Wasp.*
1 Δ. *Water of Ammonia*.

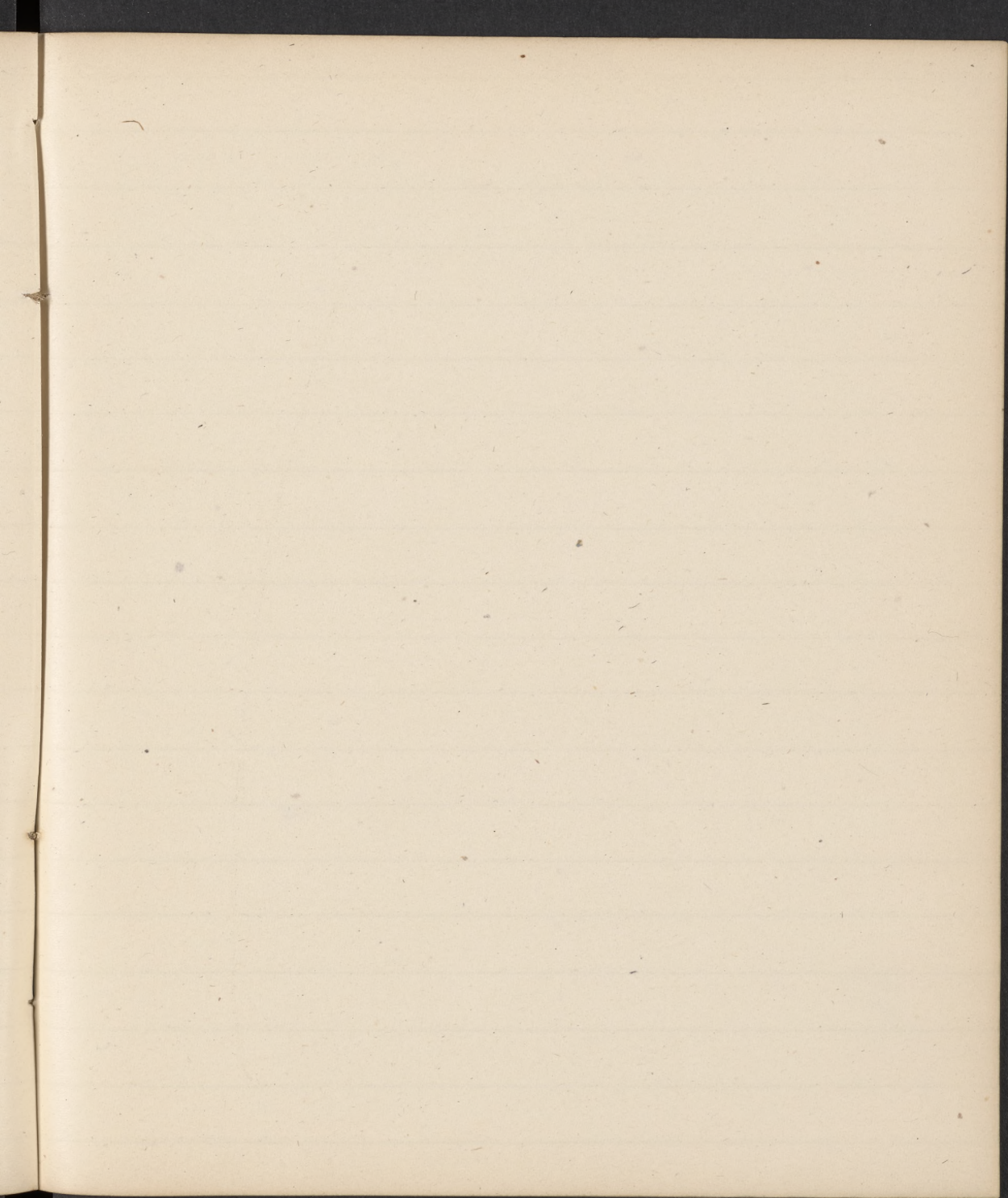
For the poisons, See
Sunglison's Therapeutics.

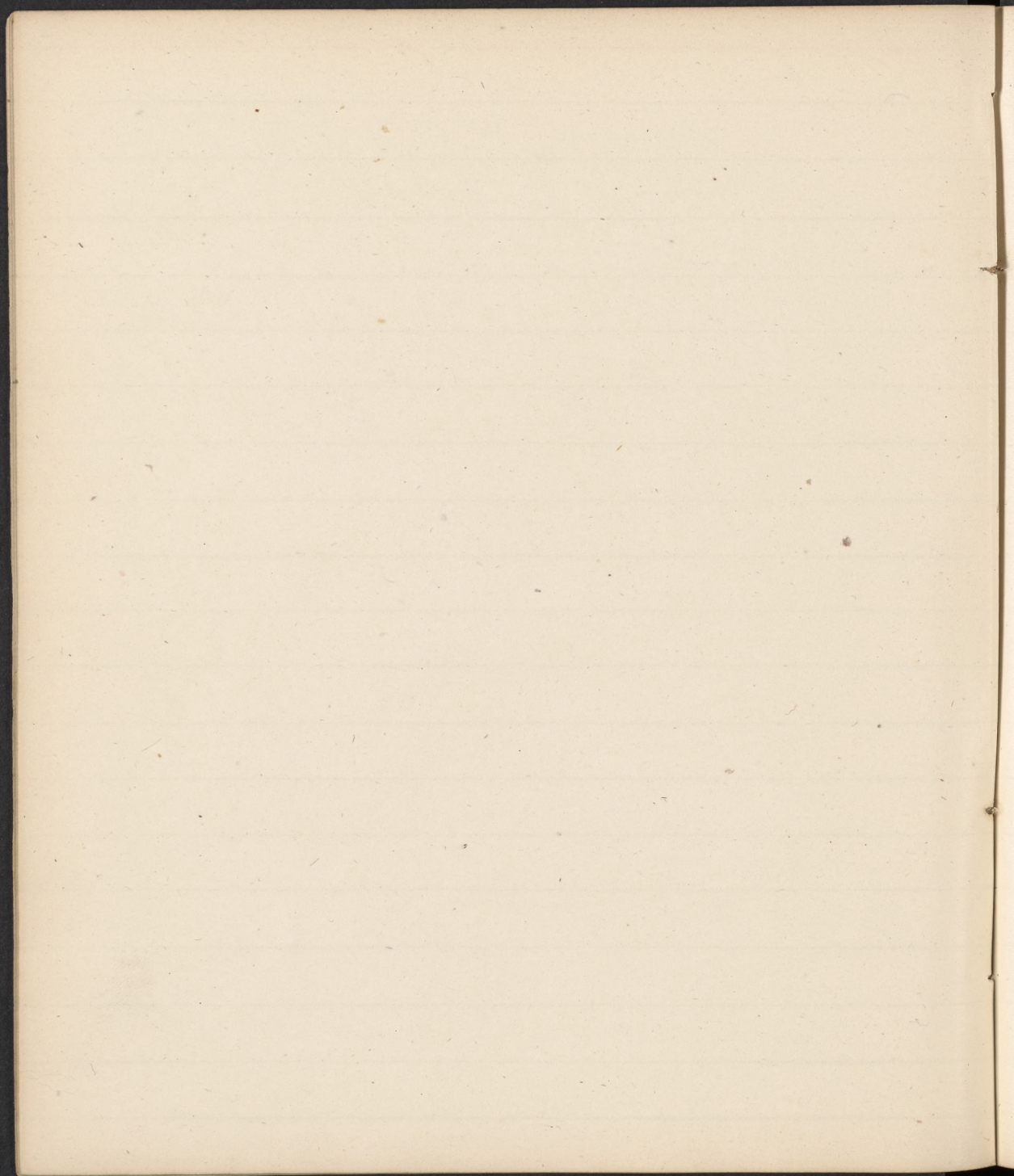
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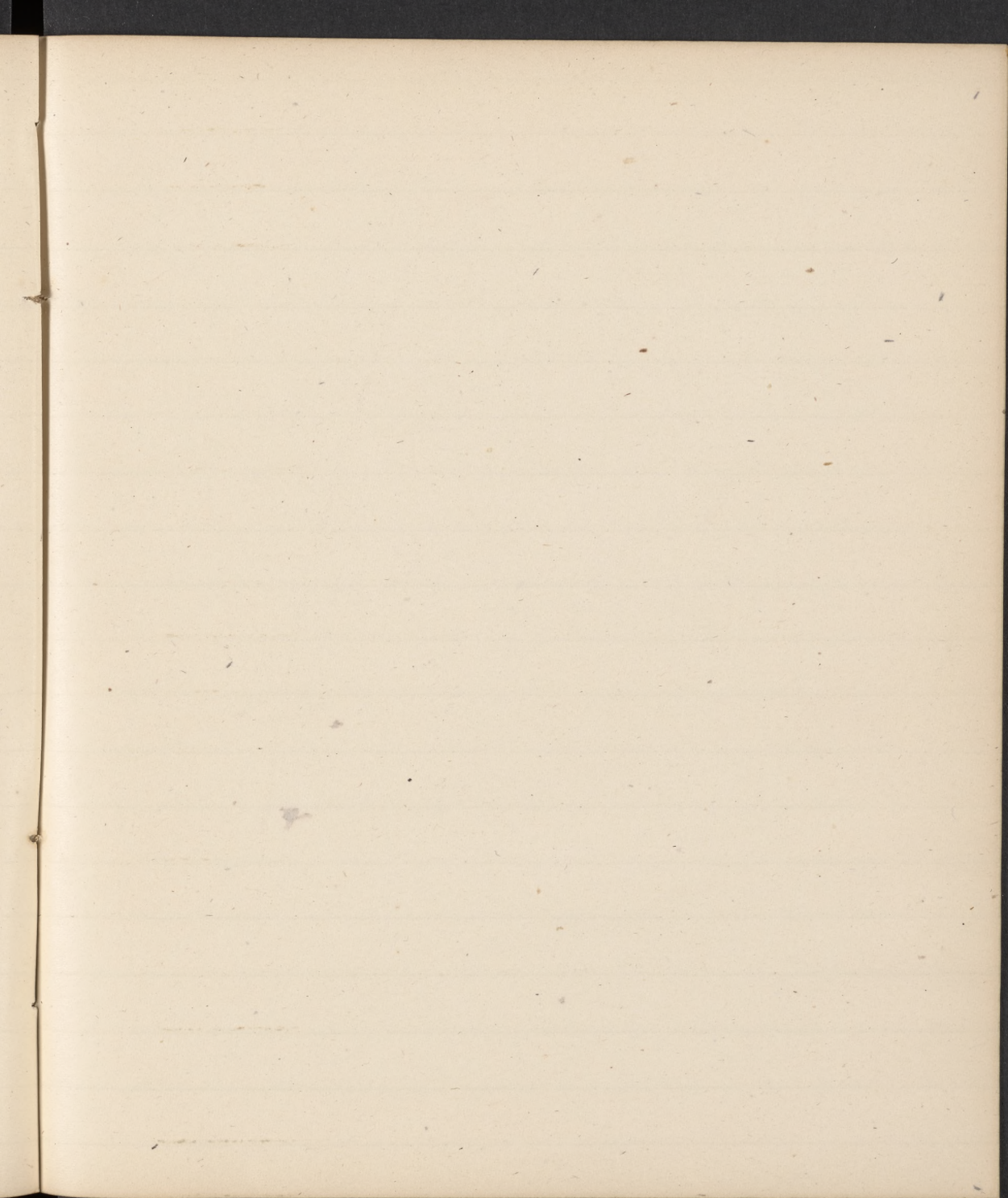
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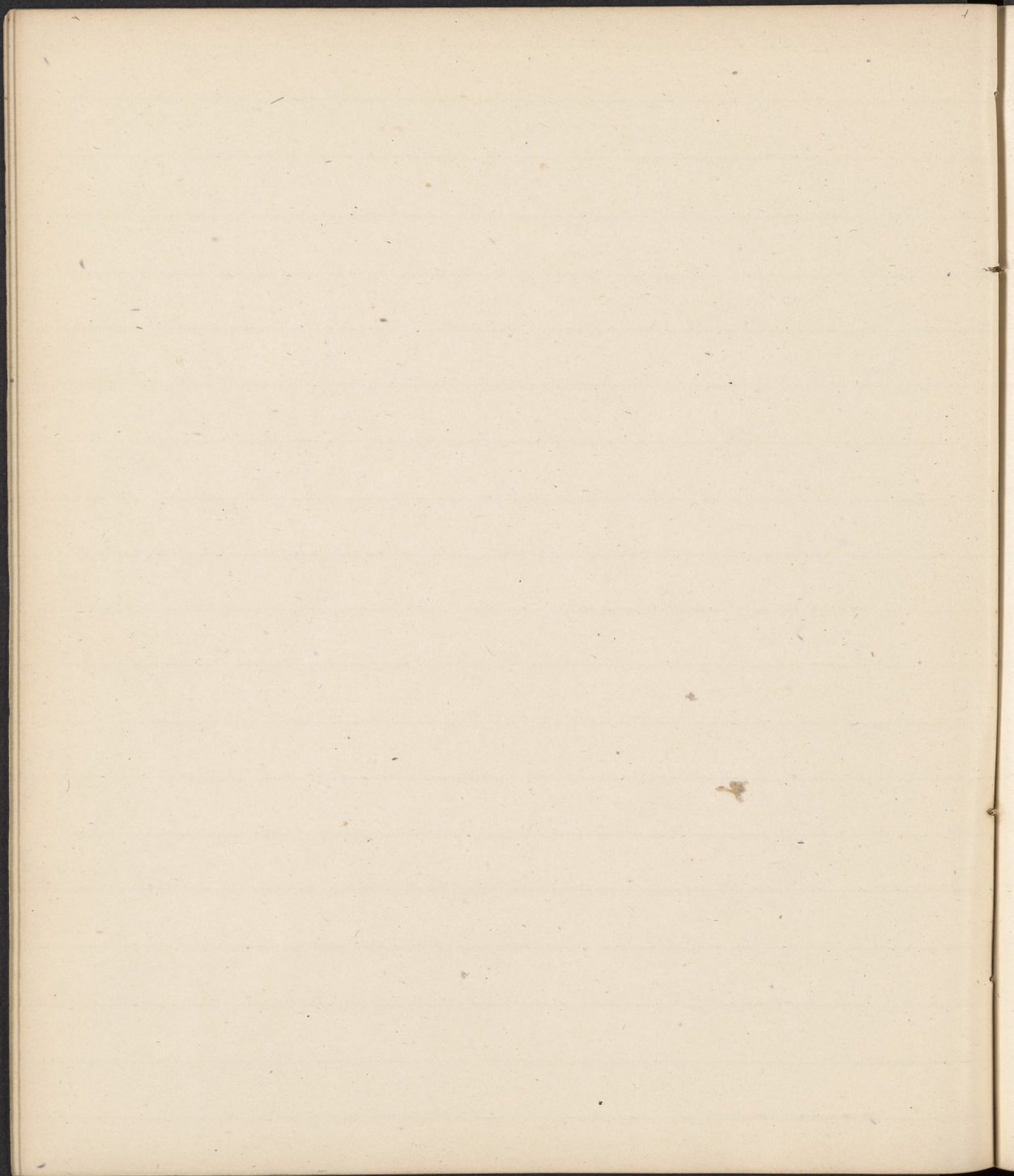


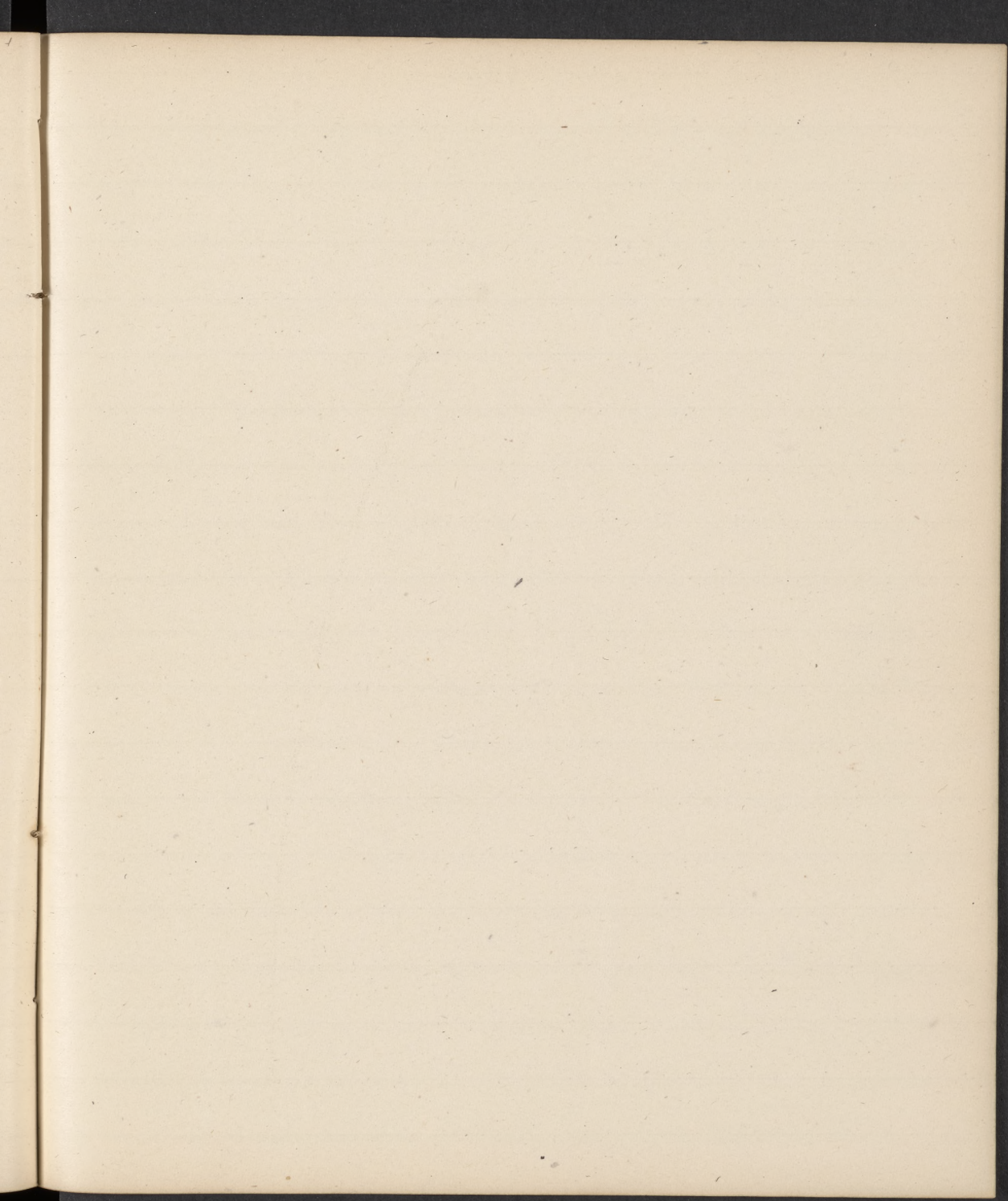


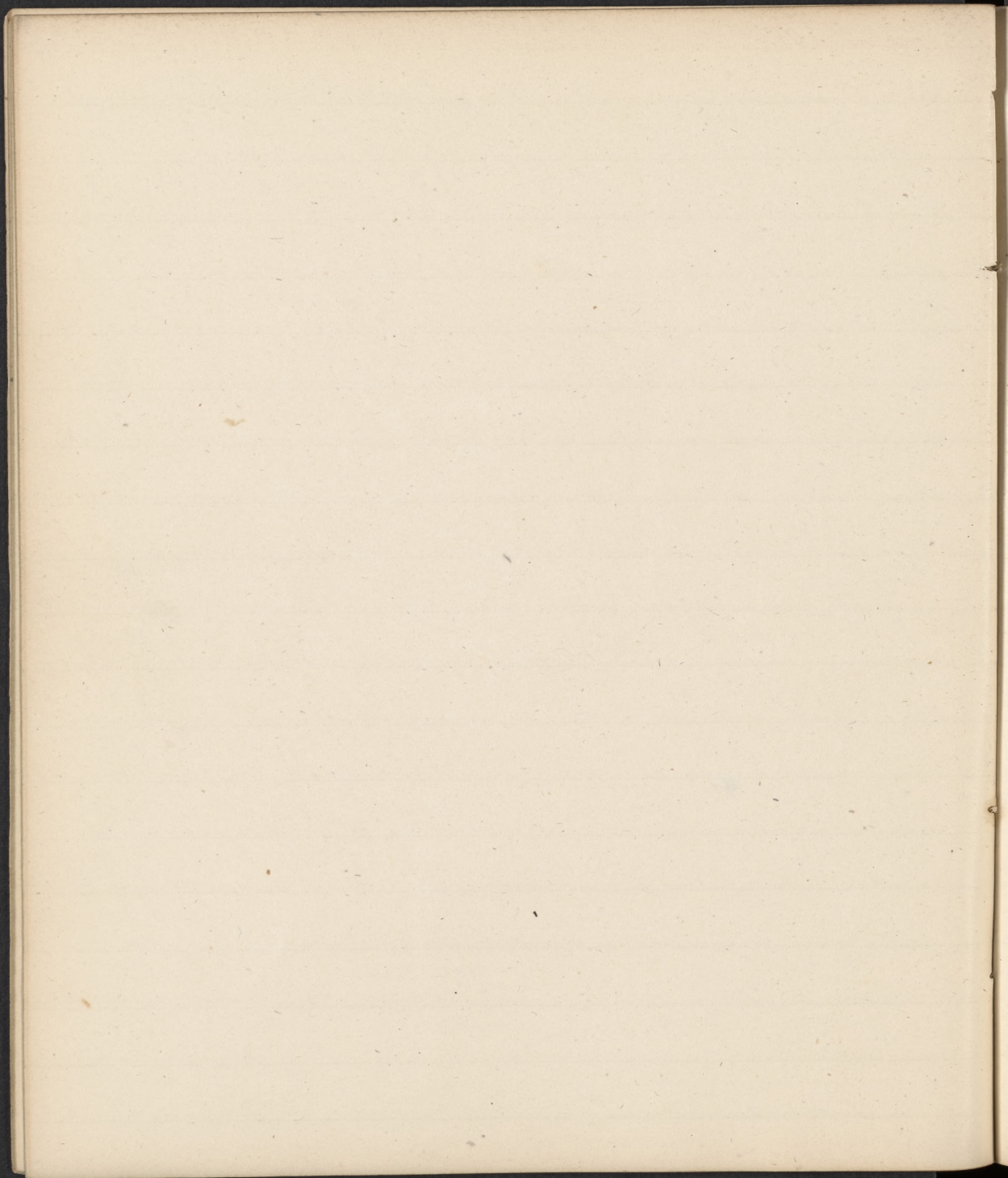


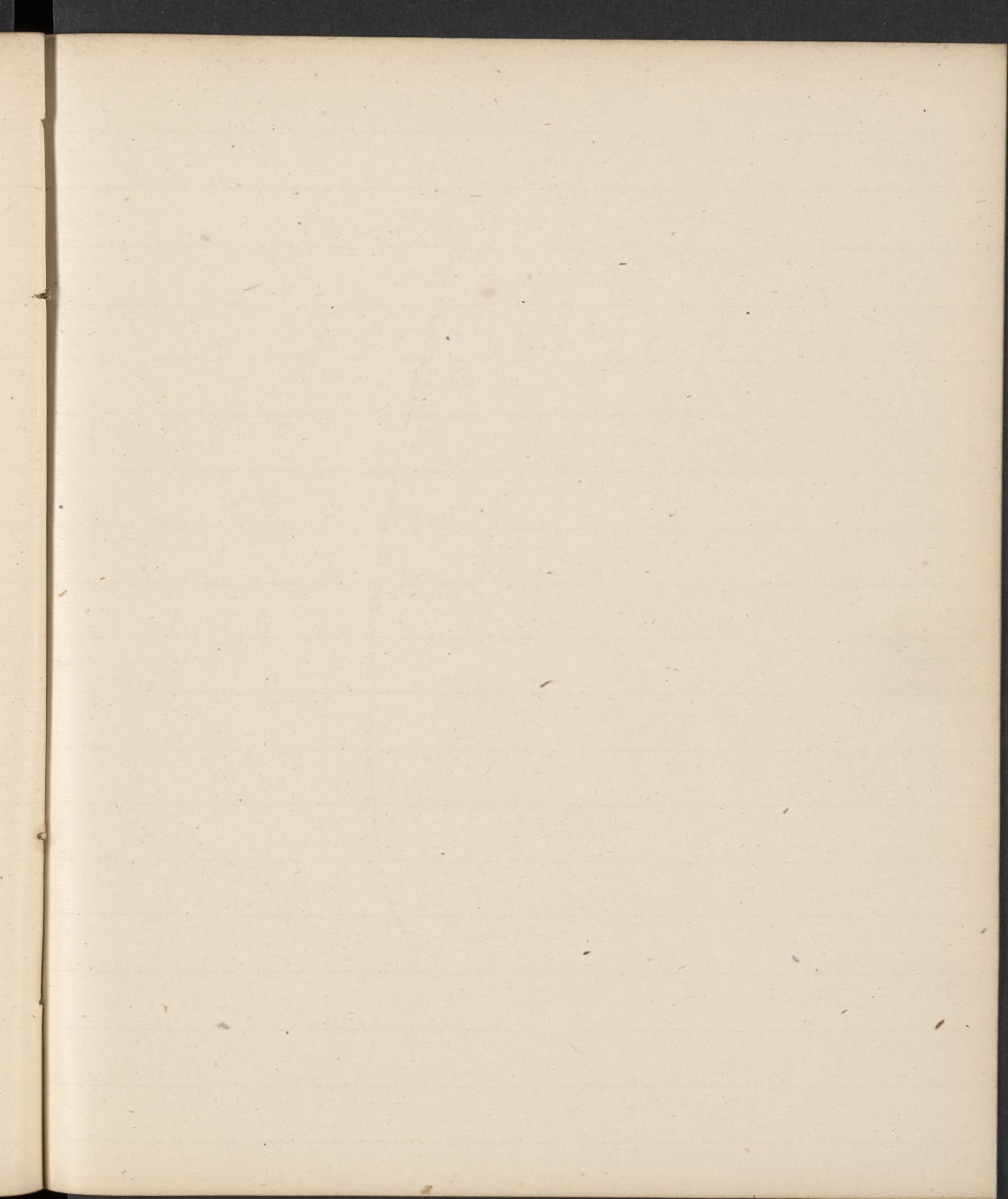


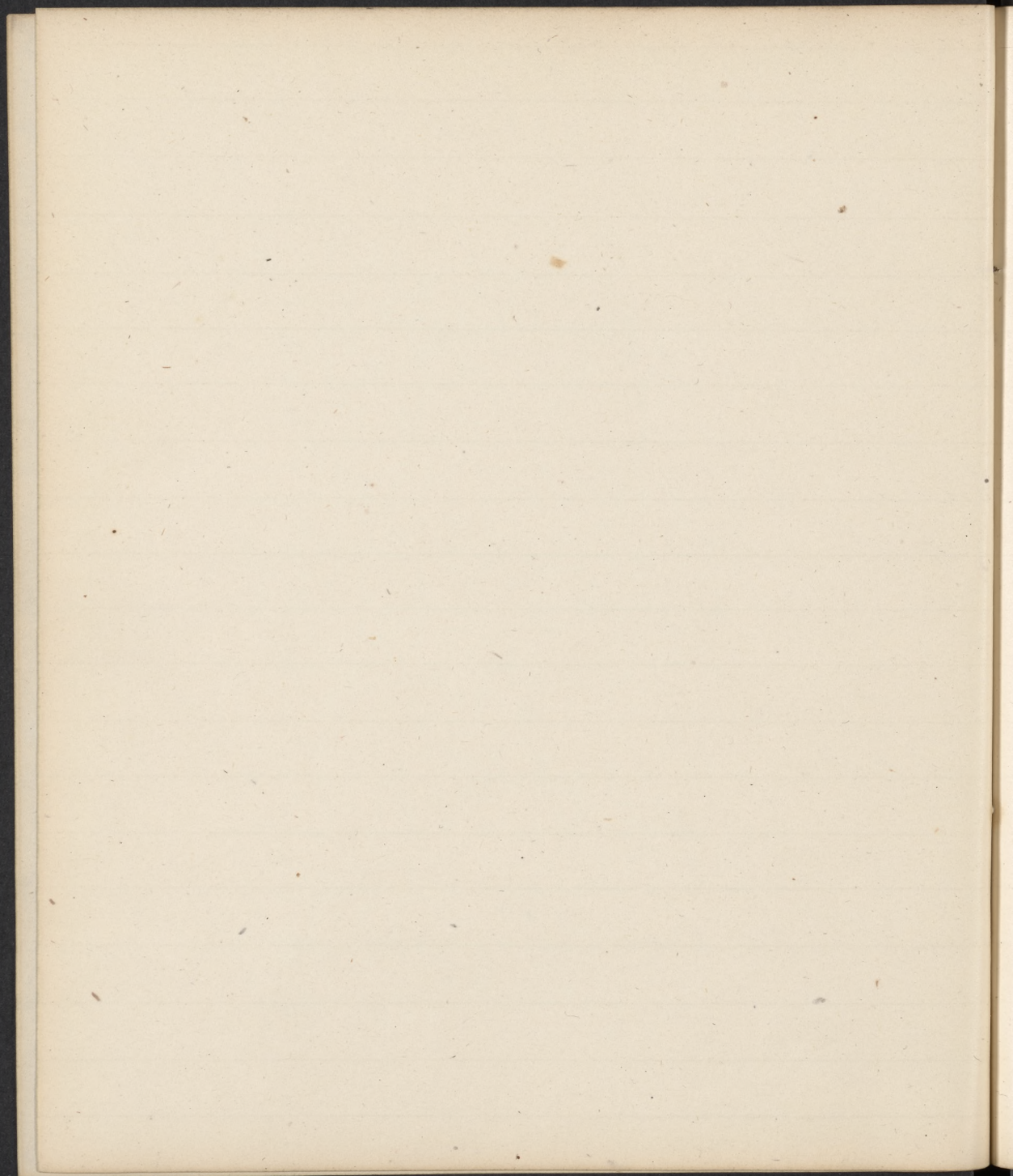


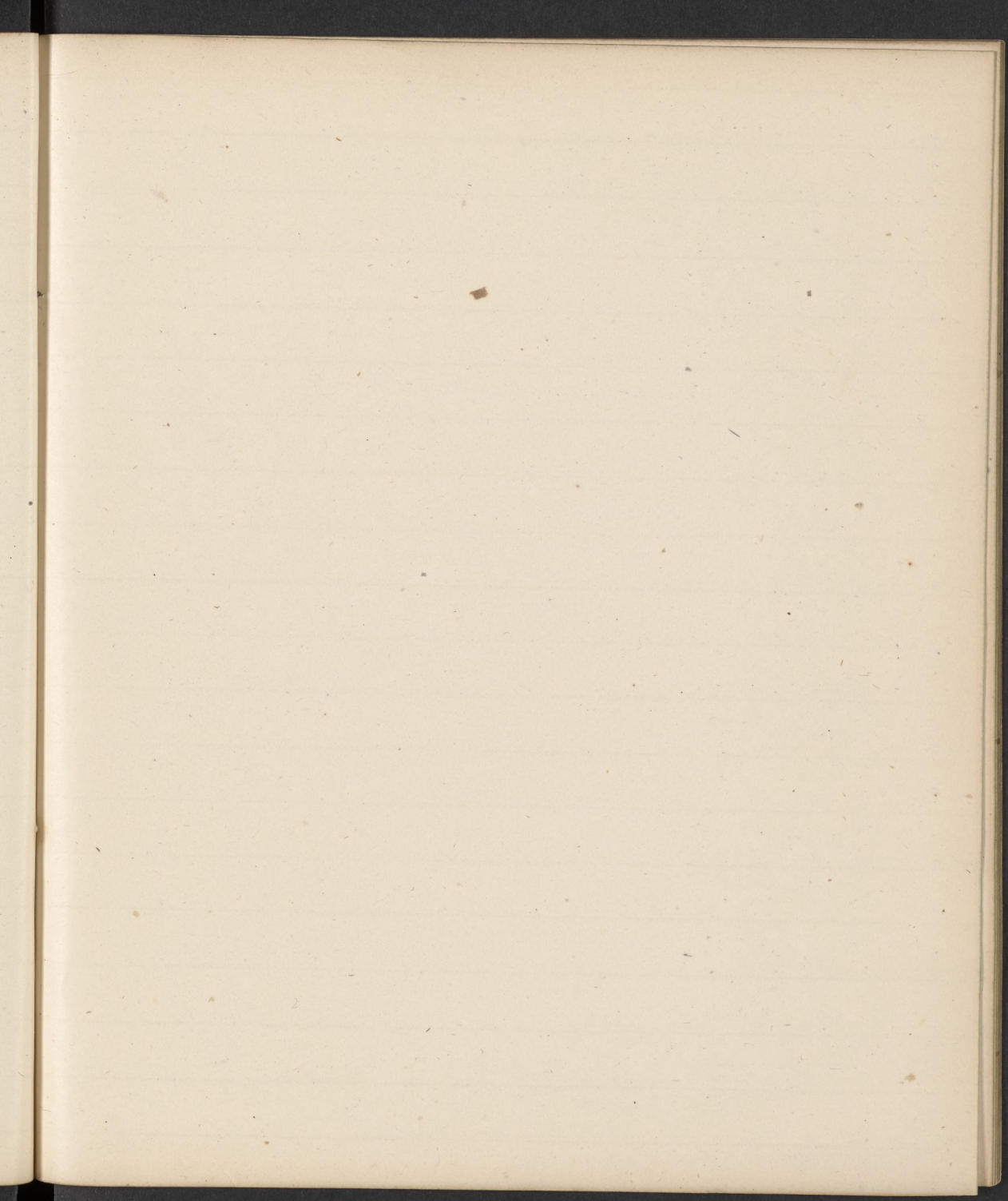


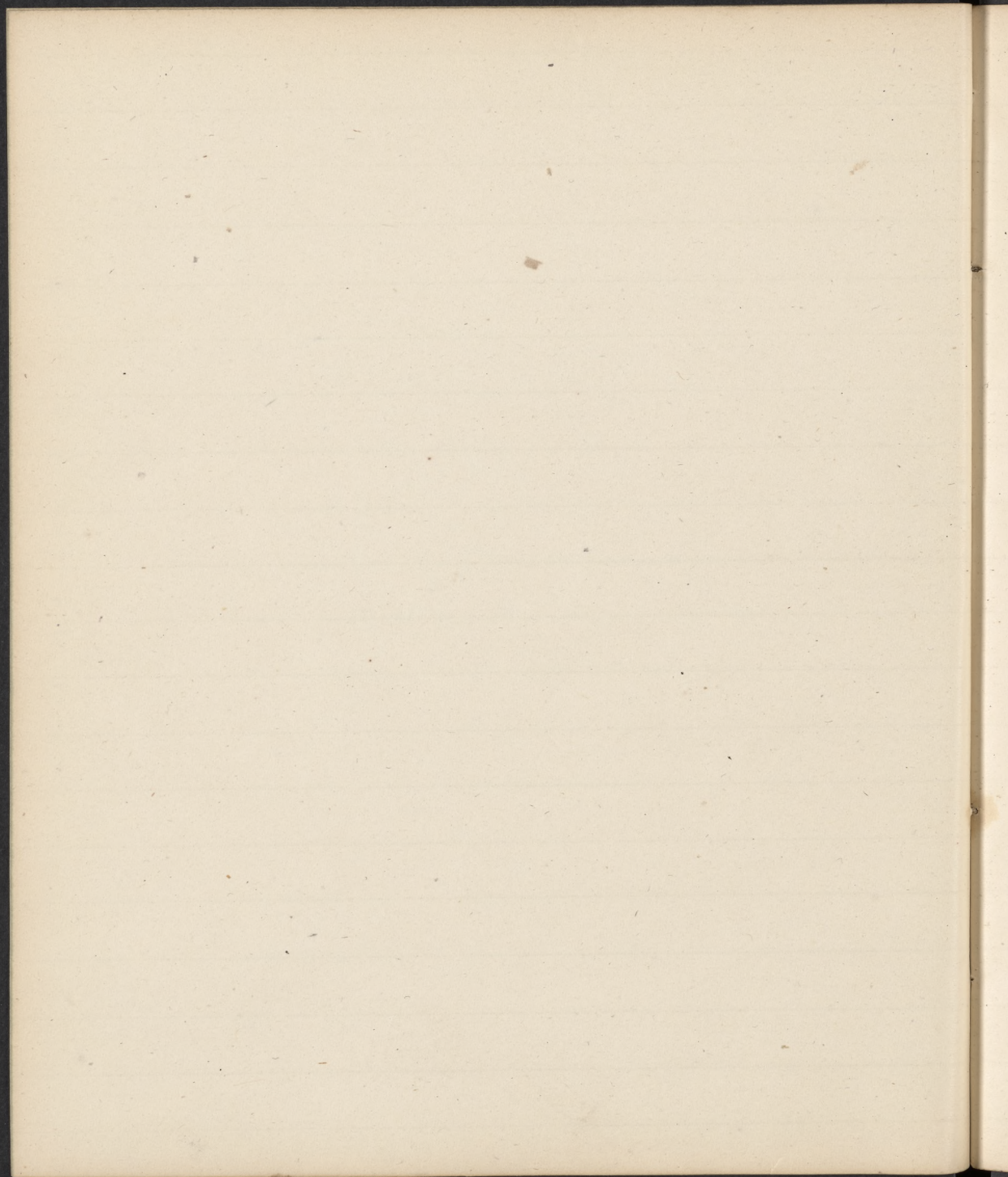


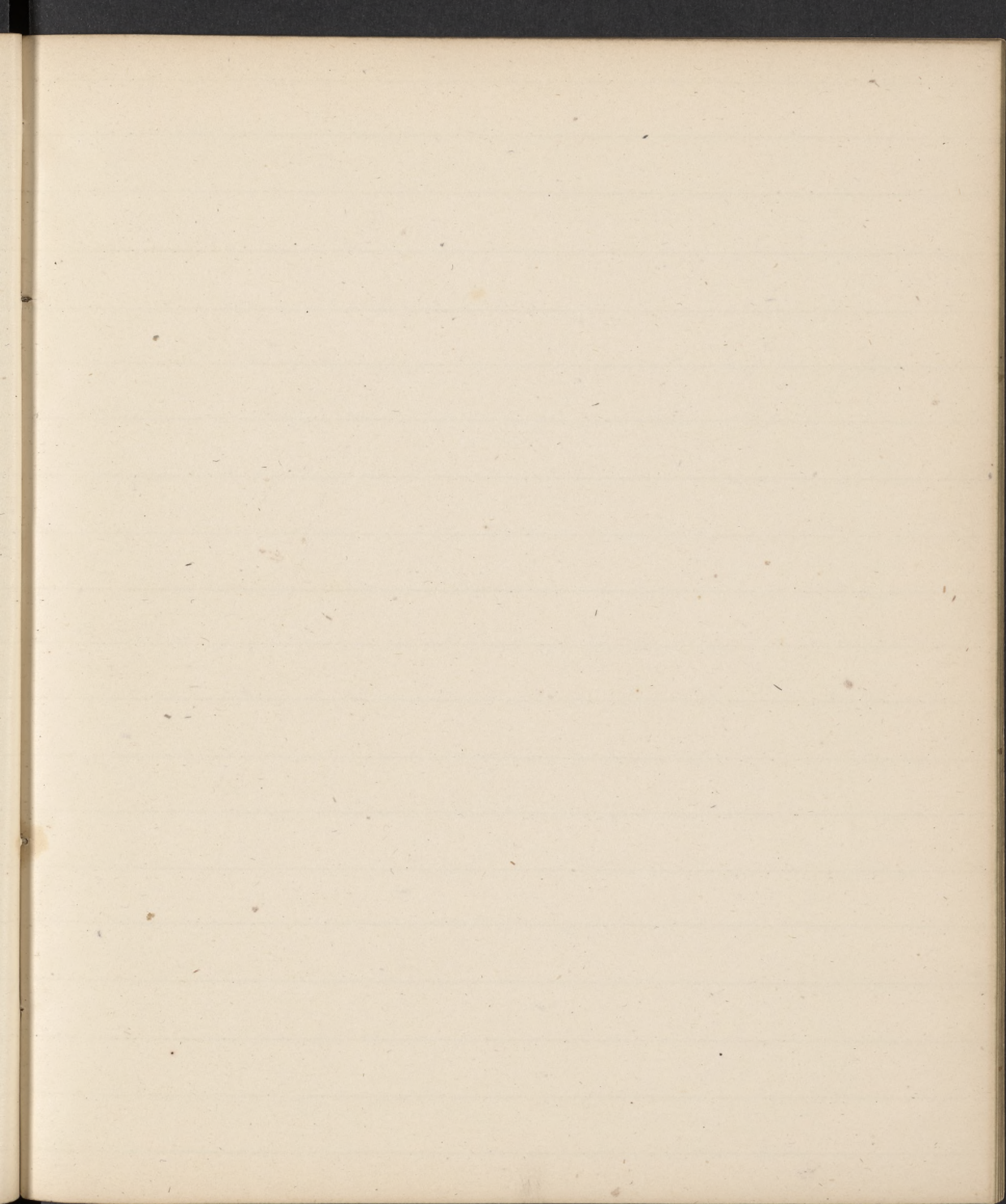


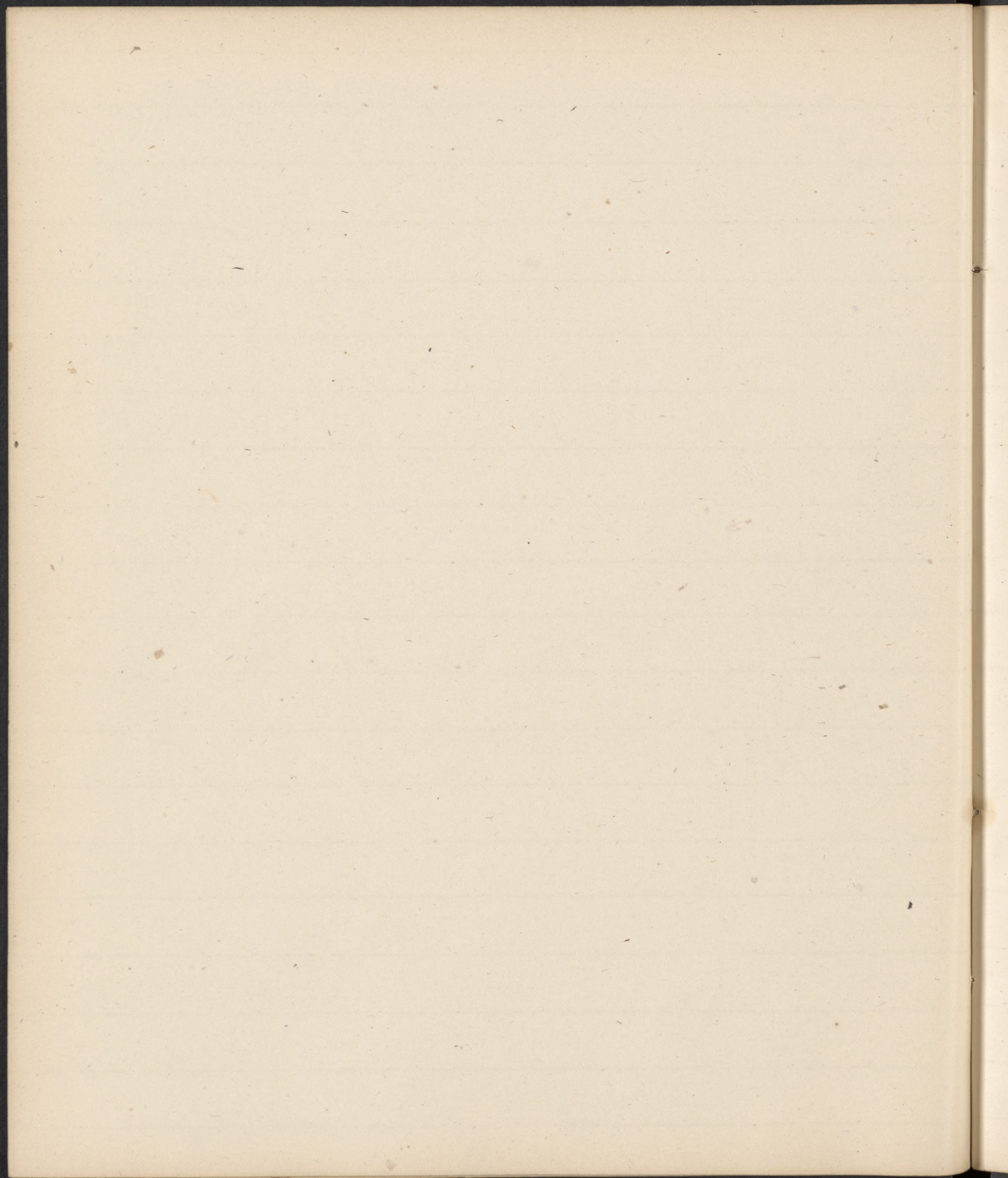


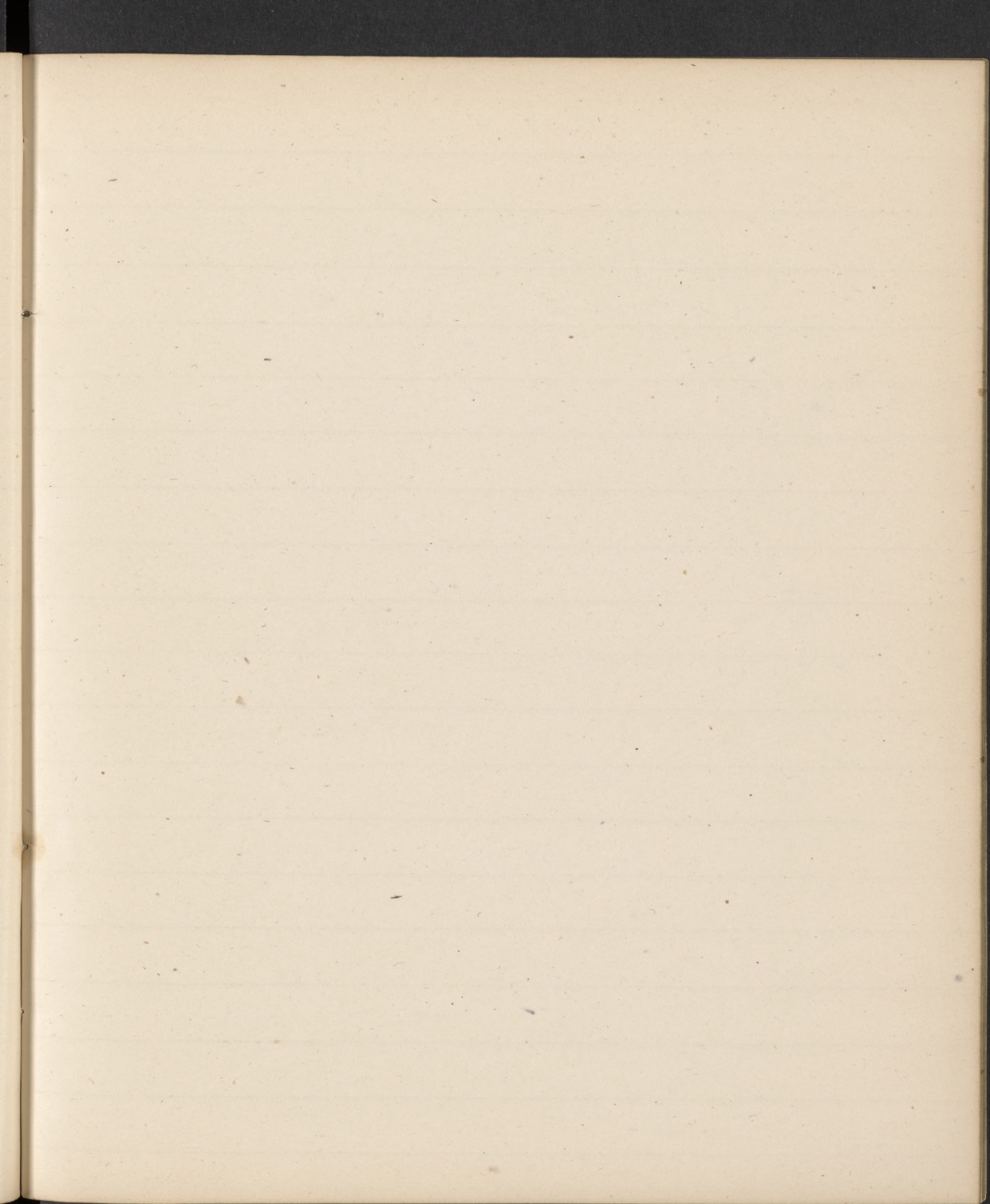


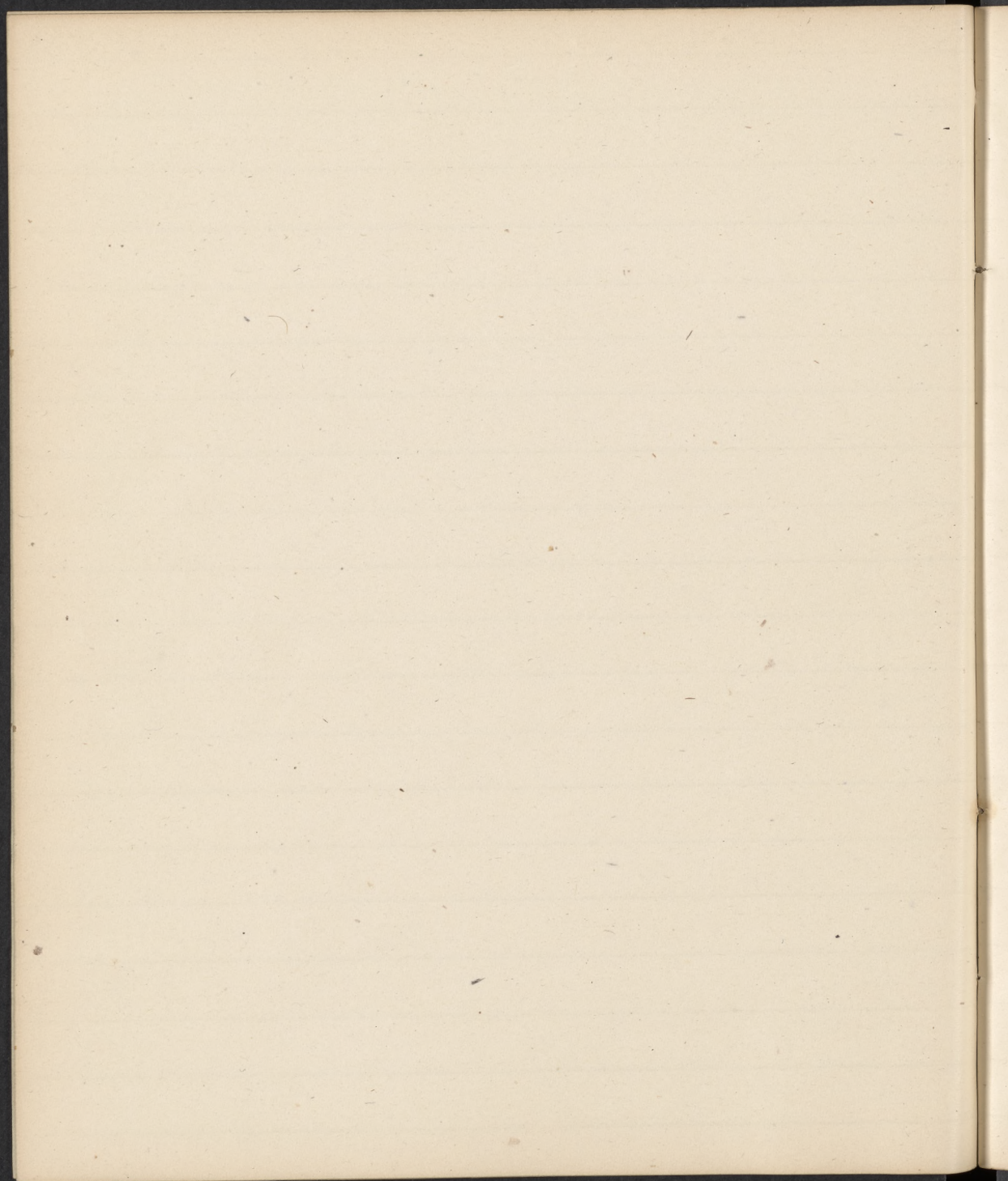


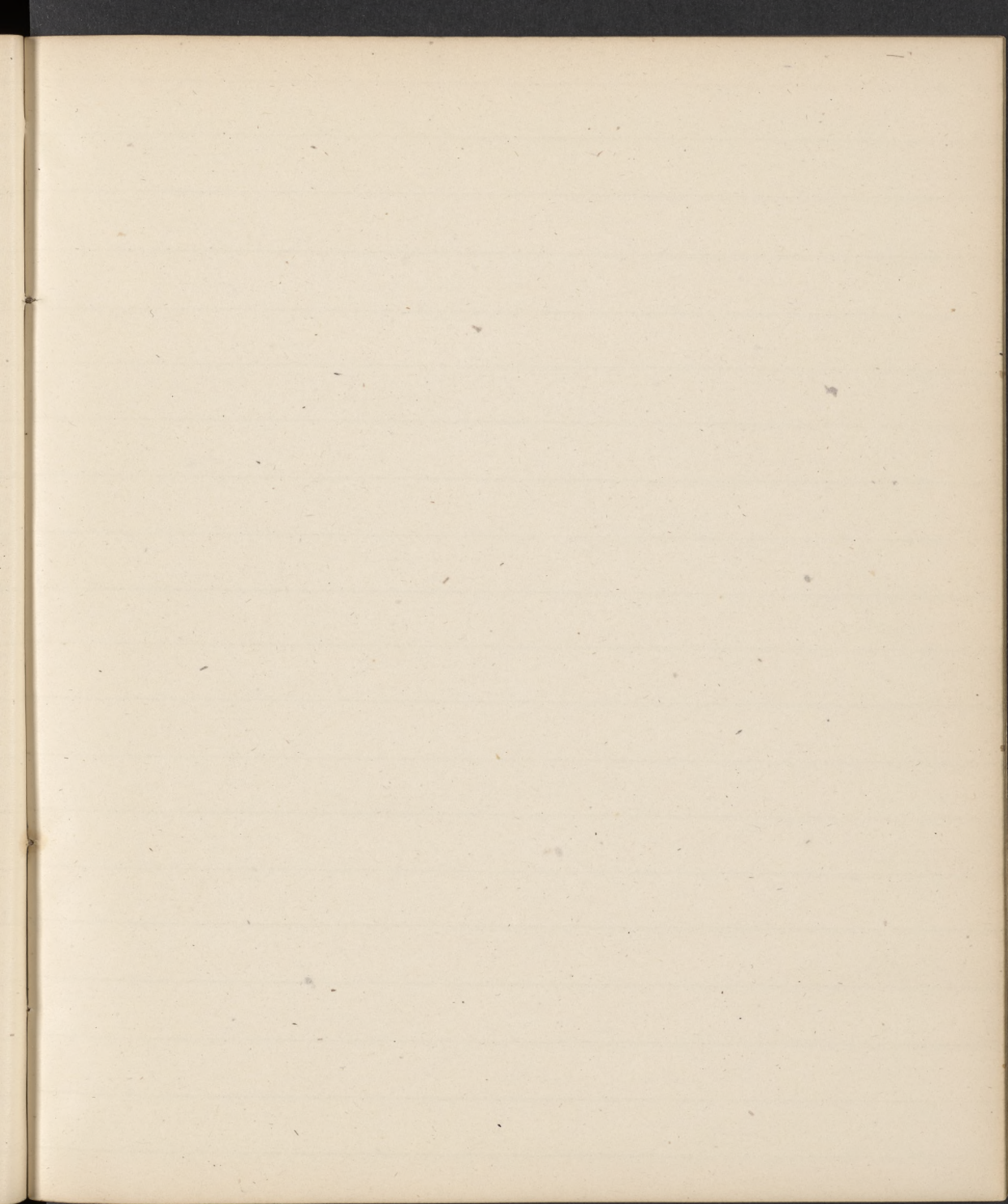


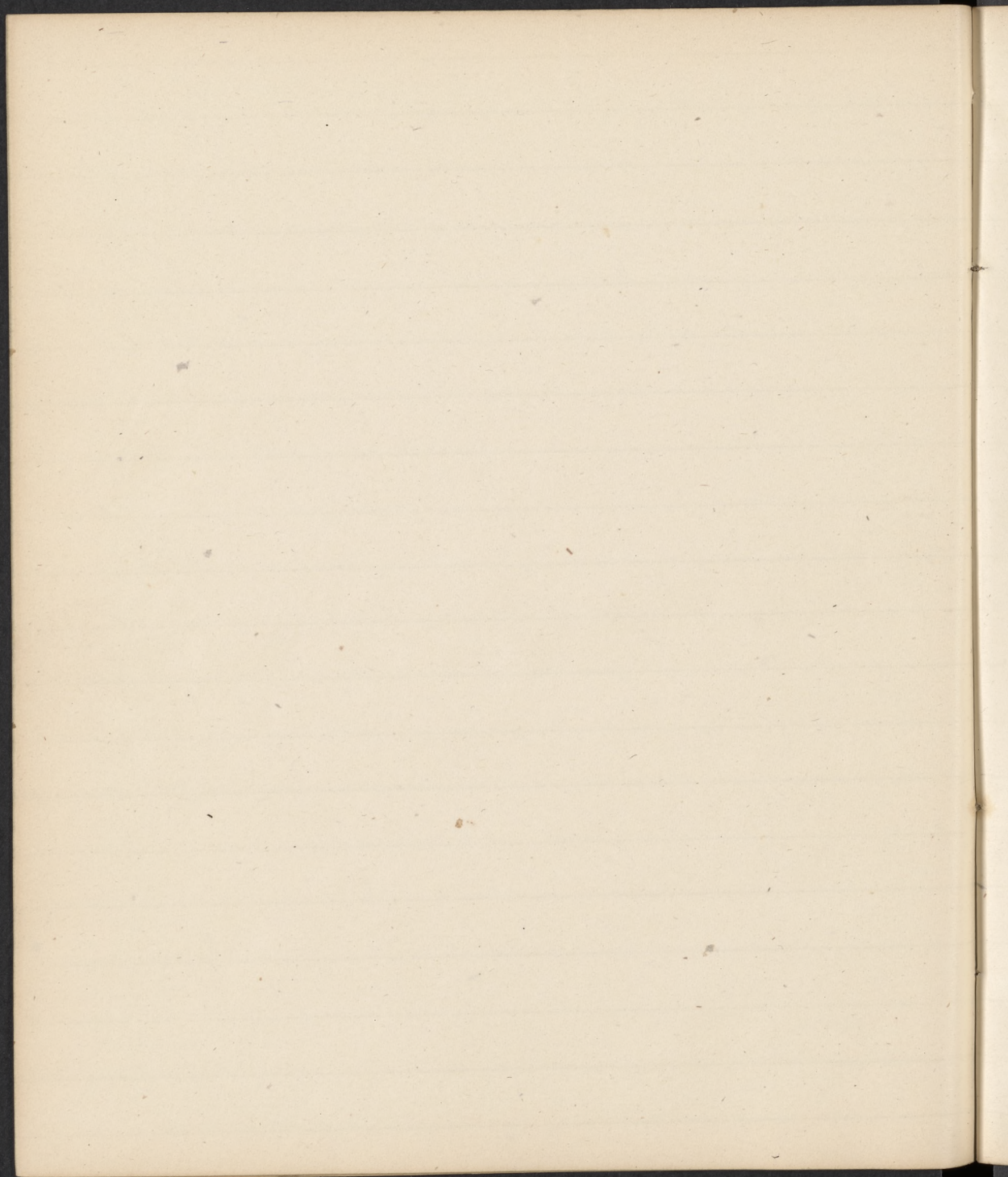


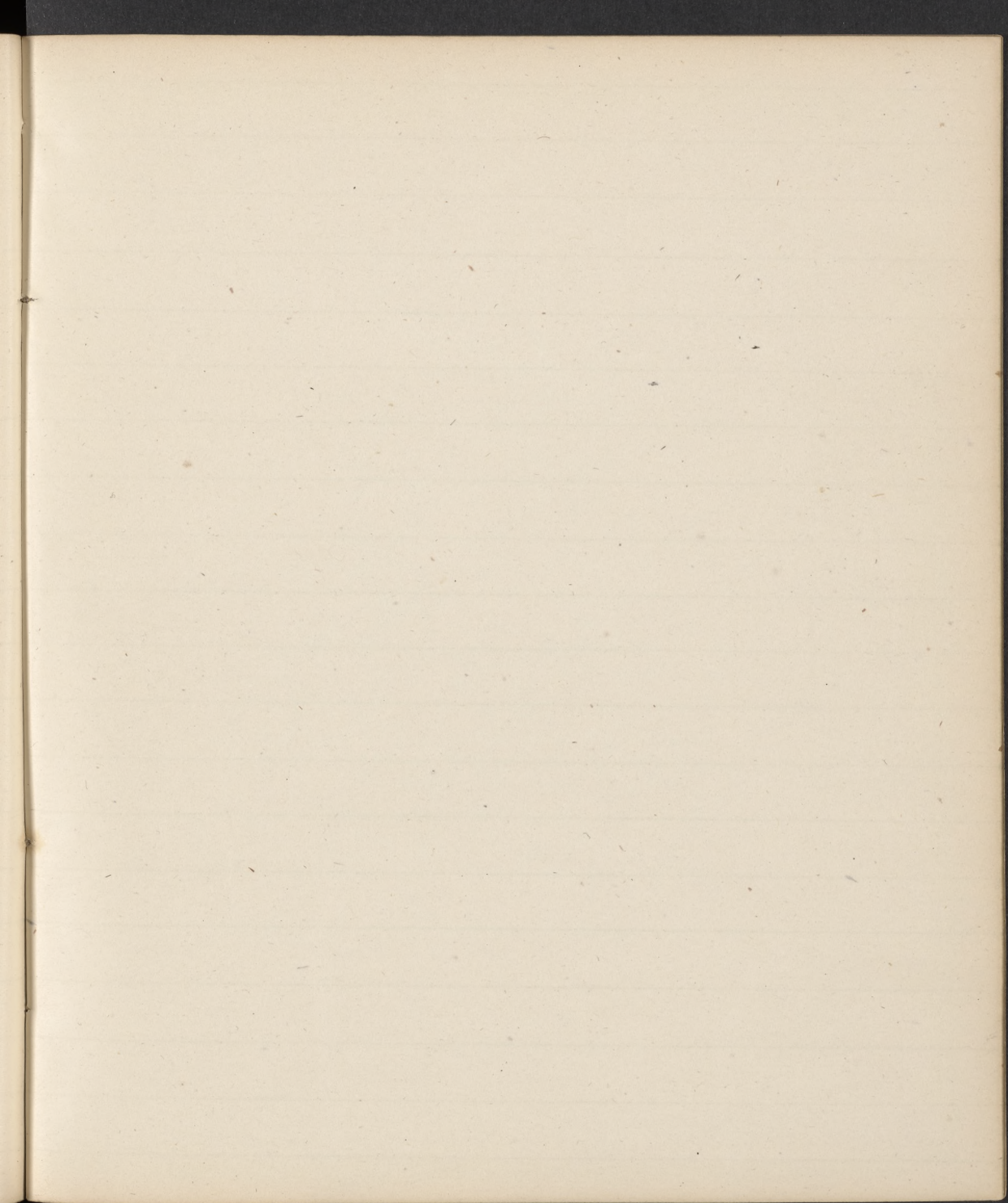


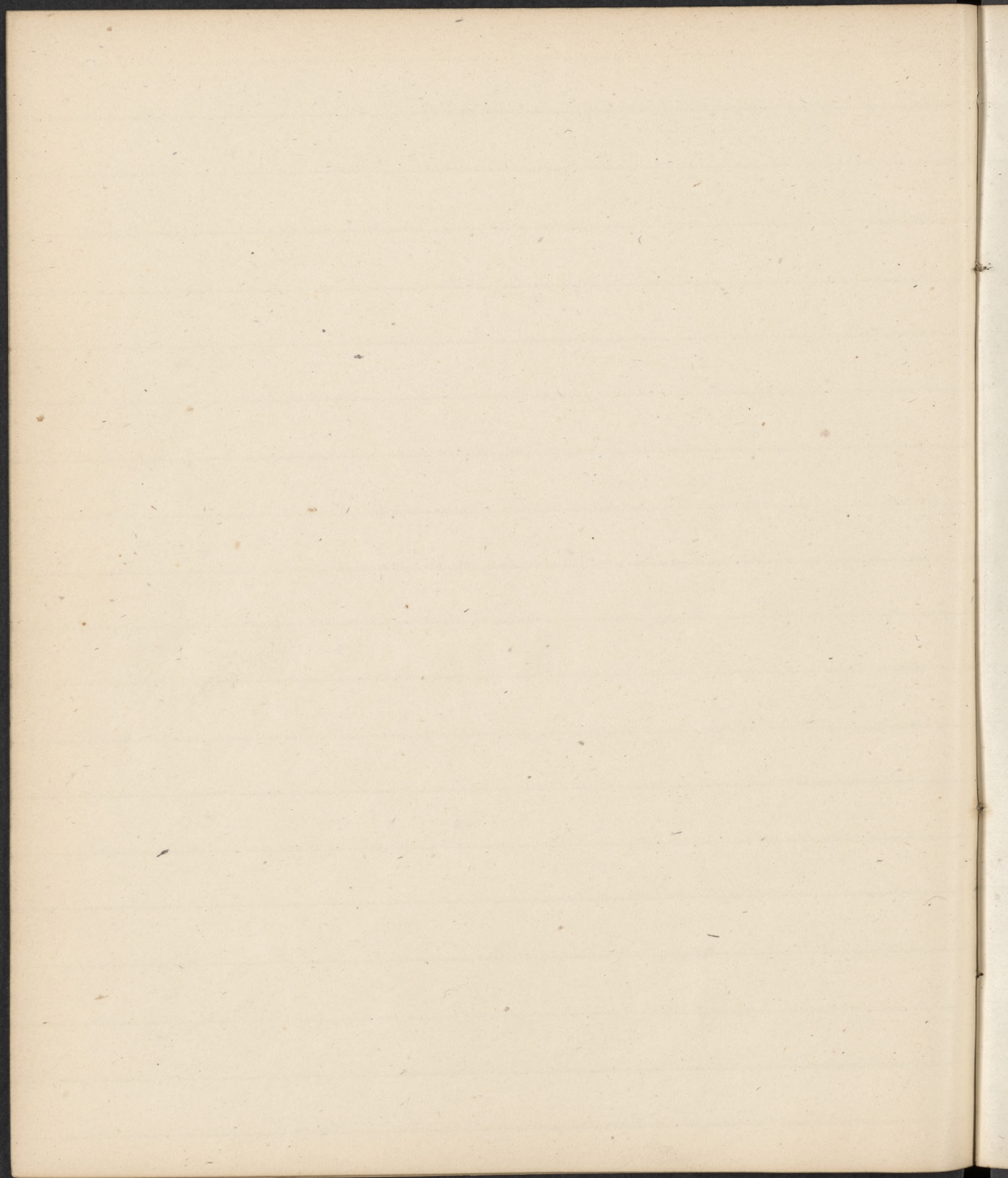


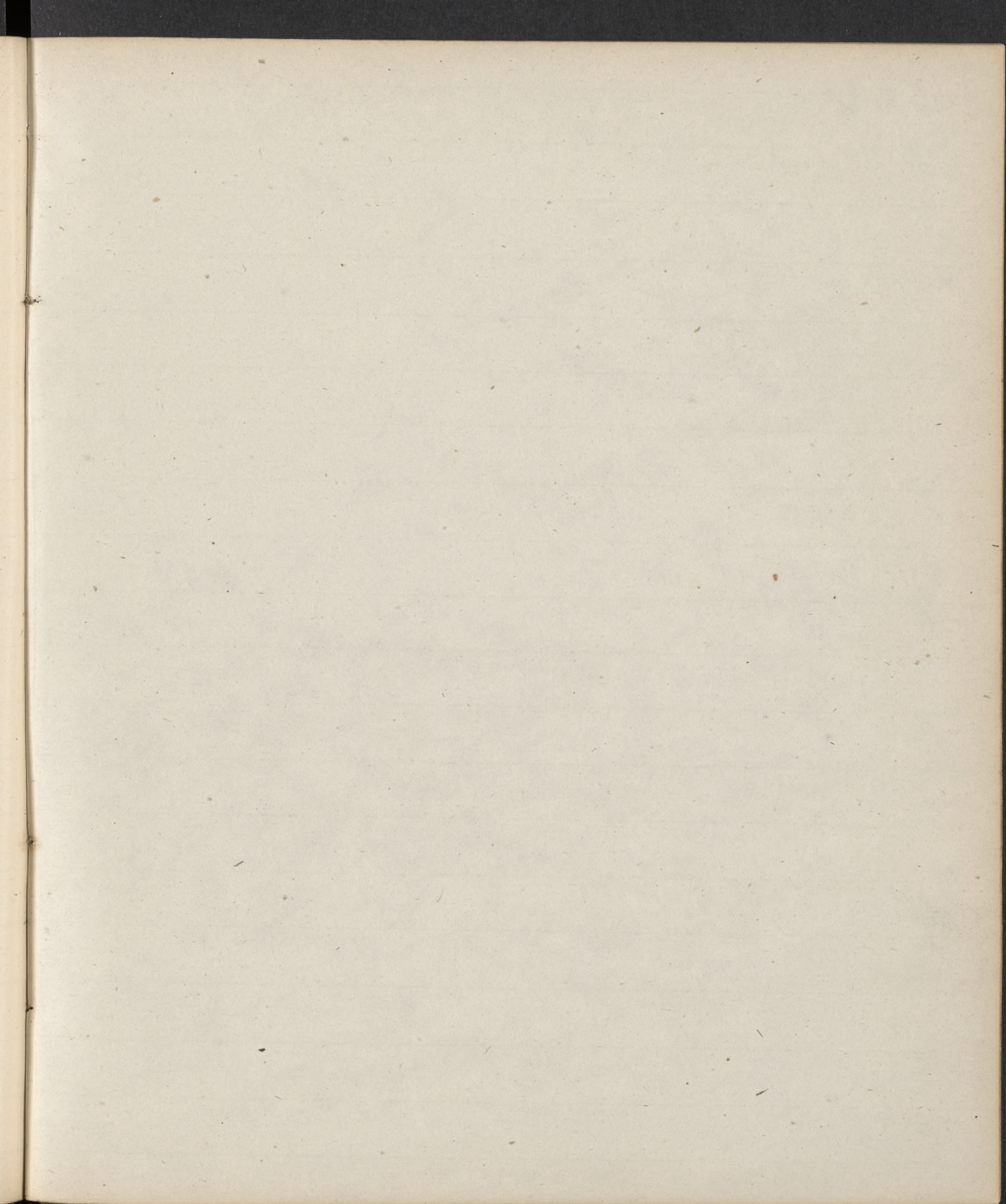












de Zinnen.

[illegible]

Handwritten text, likely bleed-through from the reverse side of the page. The text is mirrored and mostly illegible due to fading and the nature of the ink transfer.

Dear Adelpo.

Dr. Johnson.

A salmon boy about 12 yrs. General health - good. Went 3 weeks ago saw a common brown porpoise by night, and which gradually increased up to the present time; he felt no pain, thought the cause of the disease; it was a porpoise from the bottom of the ocean. There was a slight embolism of the lower margin & likewise in the middle, causing a hole in the gut.

Diagnosis - It appears without pain, redness, &c, it was penetrating, it was sharp.

Treatment. Mercury & he appeared each side of the London culture; also pulling to the tumour; cauterizing, & keep the animal open constantly; 20th.

Where before meeting from Kansas. In the
rooms - Area: Office; of History: Office.
H. Jones.

5.1.42.

Verdura.

A formulae adjustment in the treatment of paraplegia & Dr. Pennington is, always the legs with hot wet water.

5.1.42.

Nealio - Bealio.

Dr. Mitchell.

So not allow a patient to expose himself to the external air, or eat other food, after the muscles in condition, till the patient has given an answer, & the tongue cleared, & also the pulse stands in mass natural. Some individuals have naturally a fused tongue.

5.1.42.

Dr. Mitchell says that the other part of right leg is naturally double than the other side.

The spine end.

Dr. Pennington.

6.8.42. A peculiar case of paralysis of the muscles of the lower extremities, probably depending upon some lesion of the

A child 3 yrs. age. Total inability to walk. The child sat in a position of extreme flexion, the legs being forward, & supported by the arms, while the legs were bent upon the thighs. The mother stated that she had a still child in the same state.

Treatment.

Prothel with a cold oil. motor action of both with a cotton mitt; after looking me first with a small black towel, exposing the the spine of the spine. A tonic internally - 4 grs of Quinine made in that way. Quinine may be given 4 times a day. After a few days of this to be applied on skin, then, after 2-3 days. Quinine 3 grs; Mixture. Of both the spine & the spine in a day. Exposure in a cold bath. But in a table with weight & the feet, wearing leeches & pressure to make the muscles more active.

5. 28. 42. *Colpoma impletigimides.* d. Schum.

Chama imbricoides.

Reverend Sir. In the political storm of last day.

[illegible]

Practise. The case to be removed. The last
 application to the court is dismissed, also the
 application of Depecher with, as a plea to the entire
 removal of the case. After the removal of the
 application, order pending to be applied to the enlarged
 panel, & if this does not remove it after some time it
 should be removed with the case.

6.18.42. The emptying process very different; the water level
too it also has entire disappearance. The ~~water~~ surface
then water has become muddy; down to $\frac{1}{2}$ the eye.
6.18.42. Flood much reduced. - Remark - near with water
the original dry, or *hypostoma* growth near D. The surface
has been covered with *epithemia*. Remark - almost as in -
certain disease, as if it was held to return.

The gutter is not elevated & the application of a blister;
a large blister causes no more pain than a small
one; blisters in not more liable to recur; the irritation
is not more, &c. Empurion used - a roller
applied from the foot above the knee. Doct.

to Mitchell 5.21.42.

Mentha leucocarpa.

5.28.42.

in the want of information.

affluente.

Thine.

Nov 30, 2 or 3 times a day, shaking before using.

5. 28. 42.

put you with the boys: Hey: Camp: -
Barnack: -

5.21.42.

Hydrus.

Dr Johnson.

From Old man - good health, retalia from a lean 5
month ago, it began to swell gradually from that time,
but it sometimes decreased in size & then again increased,
showing a considerable power of the absorbents. It was
on the left side; hypopharynx, commenced swelling from
below; about the size of a lemon; hematoma;
treatment - Dr. Johnson said hematoma will absorb
the absorbents; however, action, & when we are
aware when the tumor increases & decrease it
may be administered. It was em-
ployed in this case, & the tumor subsided & a long
time. The tumor he pointed on both sides.
5.28.42. The tumor means all absorbed, very little remaining.
The patient said he suffered some little pain; which was of
no consequence.

· 27 · 81 · 7

Syphilis.

Dr Johnson.

The primary Aphidid's movement is marked! in secondary very vague! & in tertiary it is imperious.

6. 22. 77. 9

oriental.

Dr Hancock makes a disinterested heart in the following

Dr Mary: Hydrant:

Empo: $\text{Glenn} : \text{Smith} : 10x : - \underline{\underline{aa}}$.

Yes perhaps a little pink, &c. "The day" it will
cause the small grey puncture the school.

Now give history in chronic disease when the patient is anemic, what is the cause of the anemia? the mineral acids, the lack of iron, the lack of oxygen.

5. 71. 4. 2.

Desmia formata.

From *Lophoceros* *Immensus*. The antelope about 2 1/2 years
'up'. The distance from water scarce, great pain put
in the end of the ~~tail~~ ^{tail}, now no longer so almost to
cover the point & point at one time, feathers of tail, in
indication to bring back the shag. The was done 5
isolating the massive movements of the mother with a
large matted with an intricate of a hand. Sometimes it will
be to ~~see~~ see the large arm. Patient to live on any-
thing else, & not, he. Looking after the large, near after
certain, he.

62.2.29

Omnia.

A. M. Smith.

2 varieties - the simple & the modifed.

of proximate cause. - It generally commences at the root of the nail from the development of a chronic inflammation. It extends a few days, recedes after a few weeks. There is considerable exsiccating pain. The nail afterwards comes off, & a fungous growth, when the pain is relieved, but the fungous is not amenable to the touch. The ungues near nail is formed. This is the simple form, but when it takes on the malignant form, the inflammation is followed by something like cancer; the edges of the nail become necrotic, the loss is bad, there is deep penetrating pain, &c.

breach. - single information, threat of an ordinary
punishment, practice, description, looking, instructions,
re. affs a slight to keep the part at rest, the the
information has proceeded so far, with the nail and
show, or make it ^{easy} the affs a practice, if a foreign
man's - an article of view - little slender grain, the
practice. If it has become independent & a common
ordinary loss is gained - confused the paper.

Dr. Pfl. - *Agave* coloris et aqua Cinamomi aa, ʒj each
 annulus in aqua.



5. 21. 42. Captain Opthalmia. - Dr Watson.

Dr. Barton mentioned several cases where the Adam's Tincture (stone cup) applied locally was sufficient to cure the disease

5.25.42. *Scaphalona affinis*. - 2. *Paracat.*
field. Quinine in *long* *stems*, with *green* *arabie* is a *very* *of*-
friend *much*. *leaves* - *stimulating* *arguments* *apud*
fruits - *is* - *Q. very* *Hyd.* *rub.* *oxy.* - *3m* + *beat.* *long.* 3
latio *Basin.* *gr* ! *comp.* *gr.*

5.25.42.
Rec'd.
to Parents.

A chick 16 mm high old. In the second stage. -
 Symptoma. Being of white system very much distorted.
 5 weeks since became unable to walk. Caudal bones
 much enlarged. X-ray is defective in the interesting of
 the bone & between the vertebrae & the lower abdomen
 was turned, also was primitive in form, very thickening of
 the ends of the ribs behind. - Treatment. Anesthetics.

The seeds of the rice bird -
Treatment. -
Hypoxis - Good diet, fresh air. A cathartic followed
if they: *Sida-Mexica* - gray; *Achras* - gray; *Licuala*; *Nada*. In
the pine from 4 or 5 days. Symp of Quinine. An soap-
noting taken over the back, according to following formula:
If ag: *Dioscorea*: - 3j; *Oe*: *Oe*: - ; *An*: *Gt*: *Rae*: -

at 310 Camp: 31.
Rattle in hot water very much & many
put it in cold water, then cold.
6.8.42. The Symplocaria with fine: cold: camp: water. The
former with Symplocaria for the following kind: - Symplocaria with
a little Symplocaria: Symplocaria.

1842.
 Sat. Sep. 3. A case - showing a marked appearance of the skin, caused
 by the inguicide use of mercury. - It is a disease of the ut
 erine mucous membrane upon the very continuation, at
 the junction of the vagina. The appearance is in evidence
 though it is limited. The same pattern seen
 chronic disease often in the skin etc, for which
 & m. fissures. And: Prop.: & Symp: & Meds: For: & m. fissures.
 some treatment.

2. Case of Flora - *Anthracis acie pituitaria*.

3. A clear benefit in showing the benefit of better - not -
not even in ourselves.

[illegible][illegible]

Sept. 3. Sat. Dr. Johnson.
Case 1. & repeated knee-lip.
abscission of 2 teeth from
apex of 1st, & perforation
the operation.

2.) mitte caecum of knee joint, de. in a child.
There was a hyaline, shiny, a bulbous of the
tibia, & an opening into the joint. Testes &
bladder to the sphincter, & not which treatment, the
leg was almost cured.

5.14.42.

Staphylococcus.

& Muthus.

The patient is a little girl about 9 yrs. old, much better & the disease has been completely cleared up, forming a small scar. It was caused by insect bite. The patient could not sleep the night before the operation of the disease. The patient is now completely cured, but the disease may be seen in the neighbourhood of the scar, & sometimes the night cannot be retained.

5.14.72.

Protopharynx of the Rectum.

de Mutha.

[illegible]

Remark - Dr. - The pulchrum may consist in many forms of the membrane above, as in the present case; or it may be composed of the other membrane of the section.

6.8.42. Some of the ones are a little scabby, a pollution wind.
very Pteropoda food: gr.v. cum Sarg.: Sargap.: no other feeding every day.

6.15.42. Interesting.

6.15.42. *Impatiens*.

7.08.27

h. mult.

4.30.42.

the best thing that can be done about the female, such as for it is
advisable to cut her wings so much as to prevent her
from leaving the nest.

advocate to our government
to secure deposits from the society.

Dr Johnson was never made of cotton, wool, or silk -
noted with the abhorrence of life. He attempted to
avoid the gods & the punishments that are meted out to
the just as in a remote world, & the evil as
shown in the divine part of the poem, & then all the
other, & the divine part, all that is not advantageous.

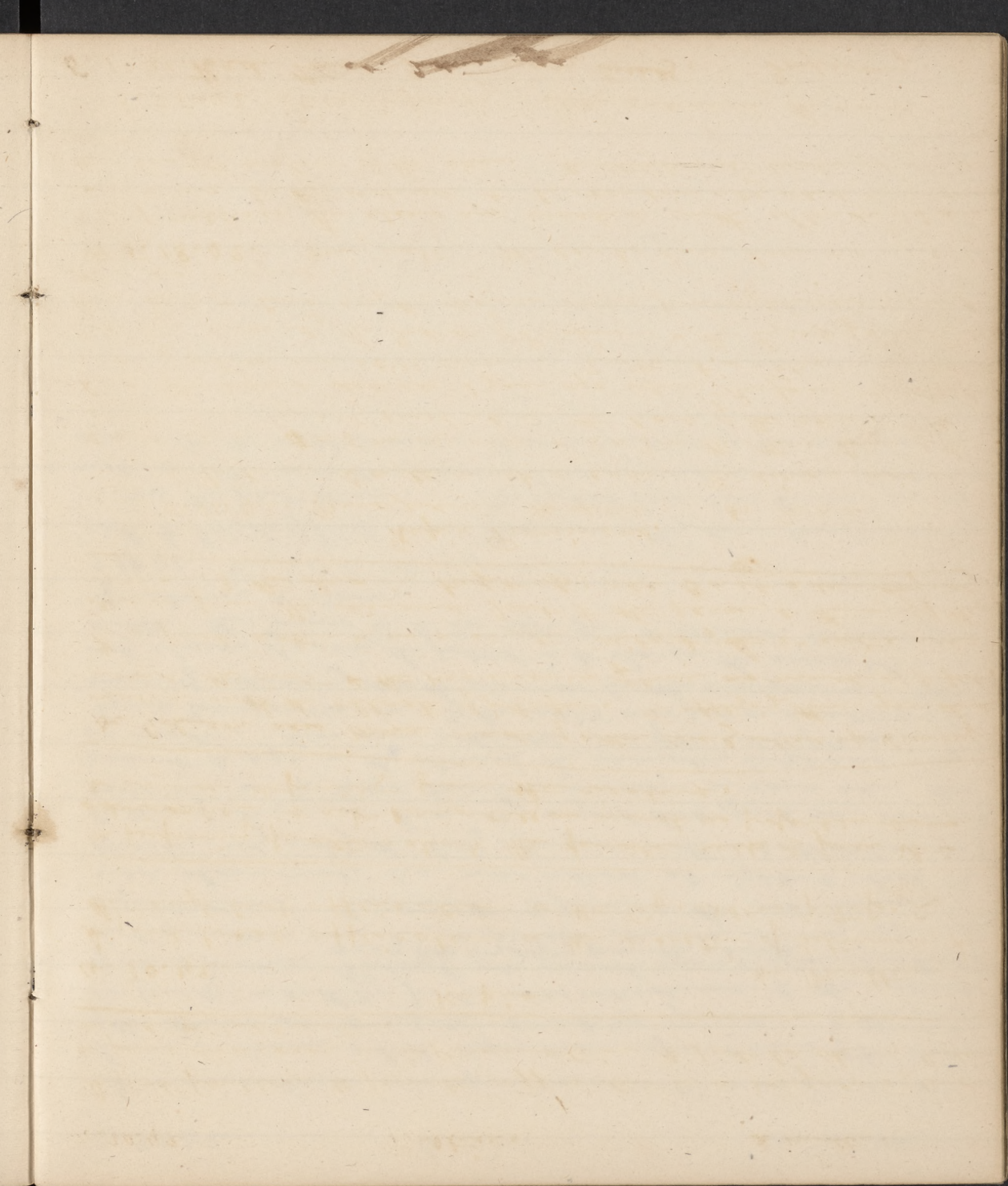
Lupinus pinnatus.
5. 11. 42. Demodermis capitata — ex novo.

A Valley - A well marked cave. The stream was on
each side. 25.5 on one side & 22.8 on the other. Some of the
cave was nearly 1 inch above the level of the stream. The
road the same distance 1 year ago when the level was at
level which are still seen. Proterozoic - Chert and fossiliferous
layers. Intensely the bedrock of Proterozoic & the Gypsiferous
limestone - Some say the distance across from opposite to
other say it is not. 5.18.42. Spring well. The peaks have been removed 5

The position! The place on market with climate of London
A warm bath ordered to be made in the road to make
the best action of the skin. Constitutional treatment still
continued.

5. 25. 42. Still improving. Still continuing the treatment.
6. 1. 42. Had first of the very good success. Improving.

Enslaved.



6-10-42. The morning after the storm.

6-11-42. The morning after the storm.

6-12-42. The morning after the storm.

6-13-42. The morning after the storm.

6-14-42. The morning after the storm.

6-15-42. The morning after the storm.

6-16-42. The morning after the storm.

6-17-42. The morning after the storm.

6-18-42. The morning after the storm.

6-19-42. The morning after the storm.

6-20-42. The morning after the storm.

6-21-42. The morning after the storm.

6-22-42. The morning after the storm.

6-23-42. The morning after the storm.

6-24-42. The morning after the storm.

6-25-42. The morning after the storm.

6-26-42. The morning after the storm.

6-27-42. The morning after the storm.

6-28-42. The morning after the storm.

6-29-42. The morning after the storm.

6-30-42. The morning after the storm.

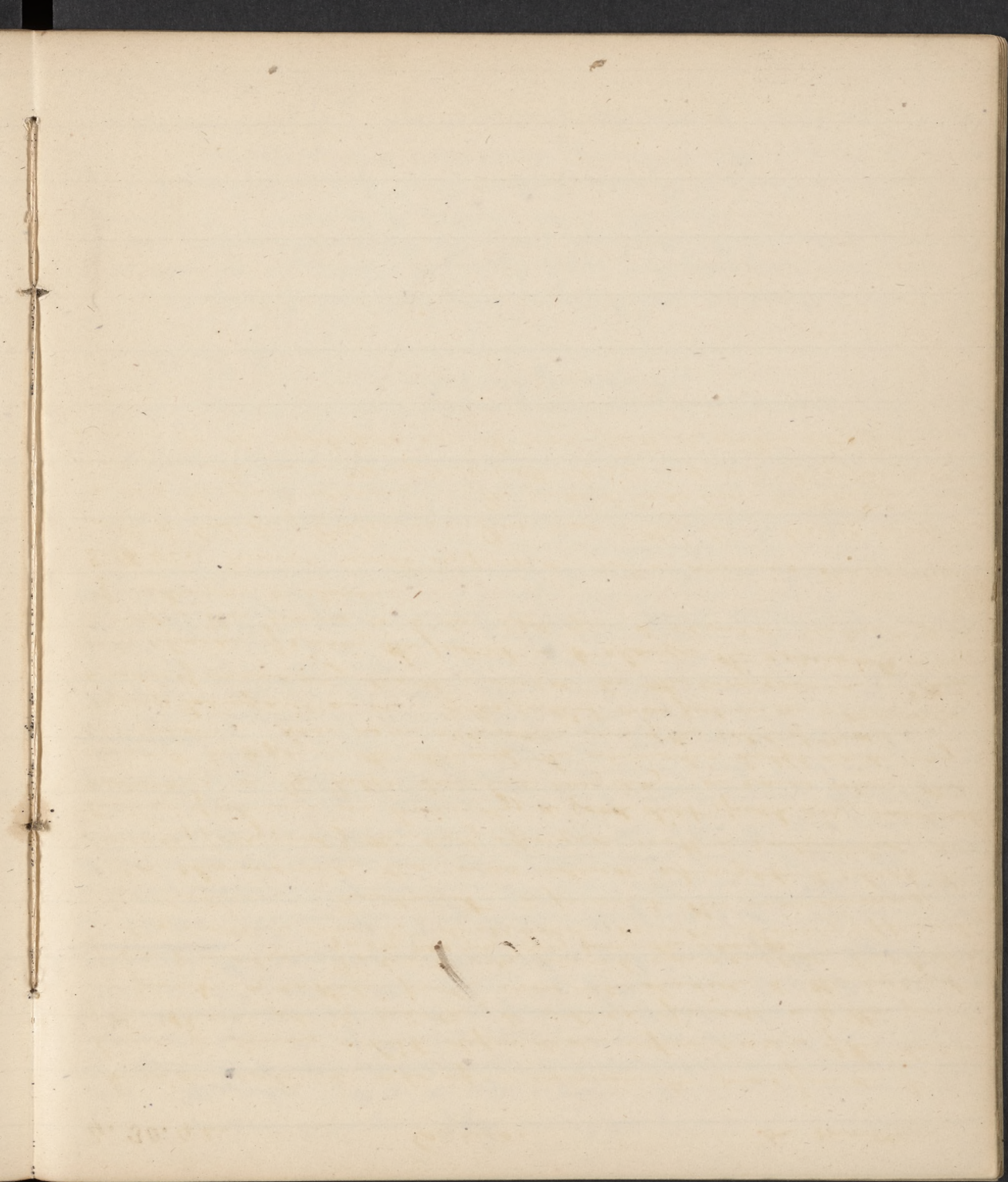
7-1-42. The morning after the storm.

7-2-42. The morning after the storm.

7-3-42. The morning after the storm.

7-4-42. The morning after the storm.

7-5-42. The morning after the storm.



q-1 to p ii - the agree 3rd correct the later Agree. Kunt must
 then, Kunt's 3rd to agree 3rd. And as means meaning
 by explain to the other than become this & vice versa, the
 child's comment to a pair of Hecuba.
 nature & nature the upper lip of the one & an action in
 men as the language is in get out of the system.
 4.30.42. Now the boy, then the preceding treatment
 a decided improvement was seen in the discharge
 did nearly ceased, the later was emitted, the man-
 some purpose of the one, mouth, & also the eye which
 more importance slightly all put on a new body of
 however; change of the individual had occurred.
 5.11.42. Answer somewhat, the origin of the one, price
 the answer of a similar part, which is more for the purpose
 of sitting in the origin (has become up in eye. The head
 shaking about the lower part have somewhat different.
 The latest large feet, much better. Some treatment still in-
 tended.

4.2842.

Polym.

St. Mutter.

Any tumour originating in a mucous cavity is called a polypus.
There are 3 varieties, viz. 1st the simple, 2nd a membranous - generally
very produced by some constitutional taint. 3rd the gelatinous,
a common one resembling a raw apple. 3rd the fibrous a firm.
They generally protrude in front - if they protrude behind the os uteri
may be felt by 2 or 3 fingers introduced behind the os uteri.
The os uteri is passed by the mouth. They generally hang from
the os uteri by a pedicle. After the operation in the first ca-
sely use an injection = 3j Sulph. Cupri - 3j to Aqua. Ros.
- 3j. In the second variety after the operation a supply of Chlor. Form.
should be used to prevent a return of the disease. The 3rd variety
is treated with 5j of the knife or the wire ligature.

4.2342.

Observation on Abortion of the Uterus. St. Mutter.

When a abortion is full not with a long large should be in-
duced & not a small one - In if a small one be introduced
it may catch in the mouth of one of the os uteri & give the
false idea of a abortion.
If after the introduction of a longer information should
take place the use of it should be retained, the patient
should be kept on a mucilaginous diet, antispasmodic
means, &c.

4.2342.

A case of Scarfata.

St. Mutter.

A boy about 15 entered exhibiting a very bad case of Scarfata:
He was being completely cut, upon his nearly destroyed os uteri as
the very of the mouth, discharges from the os uteri & os uteri can.
Treatment. The 1st thing to be done is to clean
the system entirely of the Scarfata by constitutional
means, though the following directions were given -
Rx. Proto. Iod. gr - 10 - three times a day. A good diet, com-
pound of meat, &c. good air, exercise, &c. Locally, Sulph. Cupri.

2.23.42.

Division of the Tendo Achillis.

You should feel in the inner edge of the tendon, & not your knits between the tendon and the skin, cutting, as a ^{firm} actively ^{firm} tendon, & the tendon parts with an audible snap.

Mutter.

2.26.42.

Effect of Friction on the Cellulose Tissue.

Friction will cause the cellulose tissue to become a dense tissue.

St. Johnson.

1. - 42

Excitation of Tissue.

Some excitation is quickly & possibly, as a matter of fact, to be expected. This is the case when the hands are turned on a road. In fact some the excitation should be cut out and a portion of healthy tissue placed in it. But if there is an excessive excitation, there is no need of placing. The contraction, however, by excitation, use of the hand is a different kind from the one resulting, & requires a different operation, being merely excited by direct the person's power, or the digestion of the power when the fingers are contracted. The contraction depending on a shortening of the power.

1. 42.

A practical hint in making Antiseptic.

In making Antiseptic of the interrupted kind, it is advisable to make small incisions laterally, & take off the strain ear-sequent of this nature.

4.13.42.

St. Mutter.

The Muriated Antiseptic of ~~any~~ ^{any} kind of ~~antiseptic~~ ^{antiseptic} is one of the best Antiseptic for hemorrhage from a large surface.

4.13.42.

Antiseptic in any form, or of any strength, in solution, is good in an injection in any disease. If it should happen to be injected in the vessel on which the section of the section will result, & it hardly ever fails of curing the disease.

4.13.42.

St. Johnson.

It is a good plan to replace the tendon with a needle, as if the tendon is wounded no harm results.

St. Johnson.

2.19.42.

Cutaneous Affections. Single Remedies.

Chronic Erythema. - When itching & burning are dermated washed. A repeated bath is very useful, made in the following manner. Some warm water, 1 lb. boil in 1 quart of water, then add water q.s. for a bath. Some irritating unguent, as good fresh lead, &c. may be used in the intervals of bathing. Medicines are not of any very great service. Mercury is the best one. Sulfur is a very good one. The sulphur bath may be used by passing the fumes into a bag, when the patient is immersed, with the exception of the head which comes out of the bag, & avoid breathing the sulphurous fumes. It is to be employed for a child. Detonations internally. - The preparations of iodine quart with steam, but easily developed effects. Rich drinks are also useful. Sarcocolla, the decoction, or syrup of it is very good, &c. The practice of the surgery is considered a good attention, the best among the medicines. The preparation of antimony is much used by the German practitioners. Mercuric has been used. A decoction of Sarsaparilla is recommended. Sulfur internally is useful. When the surface is not improved very much, Sulfuricum is useful. Dows, Ponds are recommended in German &th.

In many of the affections bathing is useful. Baths of warm water are useful for the skin to dry & hard, as in cases of dryness, in diseases of the internal viscera, as in chronic diarrhoea, dysentery, especially when mediated with common scabies. Baths of cold water are useful in nervous diseases. Sea bathing is the same. Improving the body with cold water is often of great benefit in certain chronic inflammations of the air passages, as in chronic pleuritis, &c. Local bathing with warm water, as useful in spasmodic diseases of the alimentary canal. This is done by having the water in a stream over the abdomen. Cold water poured from a narrow spout, at a considerable height in affections and inflammation of the brain & stomach. See applied, by being put in breadths is useful in gastritis, inflammation of the brain, &c. When it cannot be got cold water may be used.

Pruritus, lumbago, &c. are useful in diseases of the skin, where there is pain, pruritus may be sprinkled on pruritus, or a hip pruritus may be employed. Branding is a powerful sedative in acutis.

Dr. Gerhard.

Enlarged Testis.

2.23.42.

The position of the testis, can almost be taken and to cut the anterior lobe. Also of the lobes, because if they are cut a kind of lip will be the centre. The indurated is inserted to pull out this gland from the body at the same time cut it. Dr. Bancroft.

Globo Sperm.

2.16.42

There is no use of applying them unless the base is movable, because if the only be fixed with green staining, the antiseptic eye will remove a constant stain. Before they are inserted, the eye will be kept at the eye should be carefully examined to see if they are kept at the eye. If there should be an adhesion of the eyelids at the centre, they may be divided. They should then be looked, & afterwards the eye inserted. They will have to be taken out every 2 or 3 days at first. The antiseptic eye itself. The intense cautery is shown. Then the eye is 2. It should be taken care that the eye be neither too large, or too small. Dr. Hunter.

Spontaneous contraction of the lens.

2.8.42.

Depending on the nervous system, every is a contraction of the muscles of the eye are. If there is an ankylosis, the eye should be much heated with a spirit, or operation not being needed. Dr. Hunter.

Anthrax.

2.10.42.

Caused by coming in contact with matter from a dead animal, inoculating the skin. It is different from the common anthrax. A vesicle is first formed, then a tubercle which becomes gangrenous, it extends into the tissue, & eventually the surrounding parts. It is contagious, & has differing from the common anthrax. The poison which causes this disease is very virulent. Water, if permitted, sometimes effects a cure by throwing off the poison, but generally, if it is left alone death is the ultimate result. Treatment. Apply vegetable caustic, it prevents the dead matter from coming in contact with the living skin. It prevents the dead matter from coming in contact with the living skin. The patient should be tried to apply chloroform not with the eye. There, however, if it should bleed, Dr. Hunter.

2.19.42.

Amurao.

Dr. Johnson

When lymphatic, which arises from a disease in another part of the system, as disorder of the alimentary canal etc., it may be cured by removing the cause. Organic Anemia may be considered incurable.

6.1.42.

Amurao.

Dr. Janssack.

A female, aged about 37. Dark hair. The right leg from the knee to the foot 18 in. "Left" she supposed it to come from great trouble. After saying - I suffered from hemorrhoids. Received a dose on 27 June 2 yrs. The leg of right came on gradually. The can in right leg from the knee, like thin skin. After looking at it a little, it disappeared from the eye, showing a weakness of the action, very much to retain the impression. "Pain", she said - black star shooting from the eye, at certain times. The movement of the eye was slightly movable. The discharging the eye was not quite permanent. On looking a little candle before the eye, the 3 images could be distinctly seen, proving it not to be cataract.

Prognostic case. - Probably from congestion of the vessels of the base of the brain, owing from more causes. Treatment. - No counter irritation, the cupping, & afterwards blistering to the back of neck; but give also, in a counter irritant & stimulant of a blistering - cottoning, in which high color: red: is a primary condition. That the female on the head, (not a blister) was not applied. Temp. 6.8.42. Slight night's improvement.

Remark. Patients when the disease is coming on are dyspeptic, with no sleep, & on waking, showing the weakness of the action, on the part not in the eye of vision & become lost in vision. The same taking place in vision getting worse. The action of footman.

6.5.42. Improving.

immaturely produced. If there is a tendency of a recurrence of the deformity. The second eye should be closed, & the muscle drawn to the outside of the deformed eye should be exposed. This is not an easy task to perform under 6 years, as the eye has not then become so active as when they first open. They may change. When you have a case of double vision in both eyes, it is advantageous to operate on both eyes at one sitting, because if the vision axes change they will be the same then. In the operation, if you see the eye is not exactly straight, cut a little more of the intraocular pressure. It can be told that the eye is straight when the patient is looking the eye in any direction he can look straight, but some patients will be squinting even like this; it may then be tried by fixing the edge of the pupil. In holding the eyelids open, the operation should only touch the eyeball & not the cornea & sclera. The lower eyelid is held down by the hand knife. Dr. Duncanson.

Teatulae of the cornea should be applied around the eye & not on the opposite part. Cold water may be put around the eyeball. Mr. The inside of the eye is a natural vessel, for as long as the eye contains the water, no good can be done to the eye with the hands. In some dangerous operations all the operations are negative. When the eye is open when the eye is put to the light it depends on some the cause. As the muscles are liable to take in a discharging constantly, in operations before. 4.13.42.

Wells.

Dr. Martin.

5.11.42.

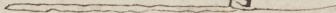
In the instance where the eye looks white & thickened, it will not be the same as the other eye. The edge should be cut off in the middle of the eye. The inside of the eye is the following:

R. Eye. Cornea — 3i
 Iris — 3i
 Pupil — 3i
 Lens — 3i
 Vitreous — 3i
 Retina — 3i
 Sclera — 3i
 Conjunctiva — 3i
 Cornea — 3i
 Iris — 3i
 Pupil — 3i
 Lens — 3i
 Vitreous — 3i
 Retina — 3i
 Sclera — 3i
 Conjunctiva — 3i

It is applied on both & applies to the surface of the eye. Dr. Martin almost considers it a species in the disease.

Indescent Alceas.

Let me are very stupid in indolent Alceas. Action should be applied just near the Alceas; I act over a long & last over a minute, for if it be applied directly over the body of an action move-
le it produces to much pain & irritation. The Action may be as good with sick children.



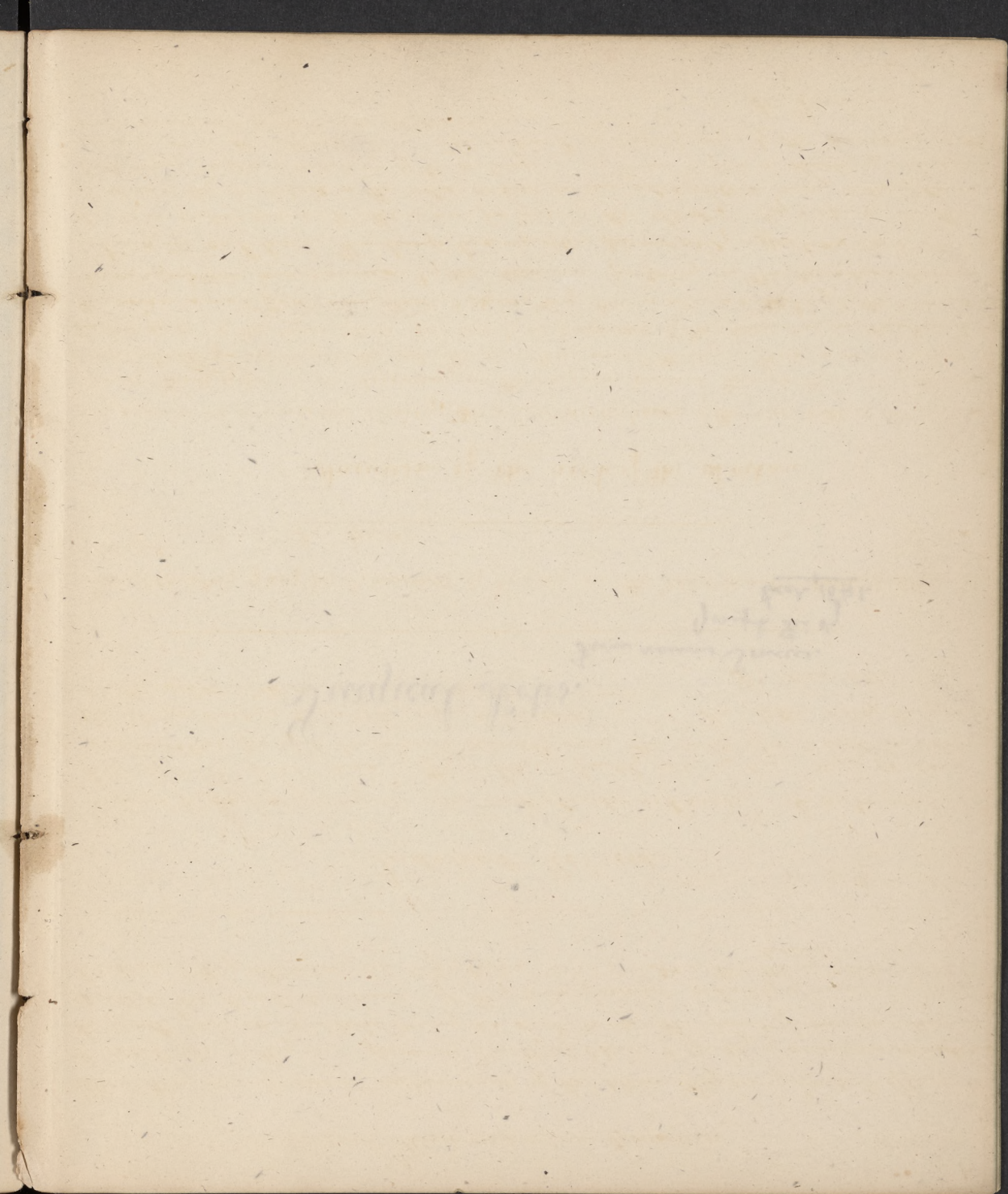
Gr Mueller.

Key commence & increase slowly. There is a disturbance of the circulation; the entire
 ridmal third of the pulse, depending on the irregular current through the artery, this sign
 is uncertain, for it goes through the see there is no thrill. There is more or less
 disturbance of the action, caused by a pressure of the humors on the trachea,
 the voice is modified, being shrill & squeaking, this is also a ~~sign~~ of the anæmia,
 the symptoms are caused by the humors pressing on the trachea, diminish-
 ing its caliber. The lungs become often considerably affected by a stic
 for the enlargement, this we find in the chest. By pressure on the
 sides of the vertebrae a rib, cause or an absorption may take place,
 & thereby inflammation of the artery. The patient generally dies by the bursting of the
 aneurism, & the aneurism.

freedom of the arch of the struts.

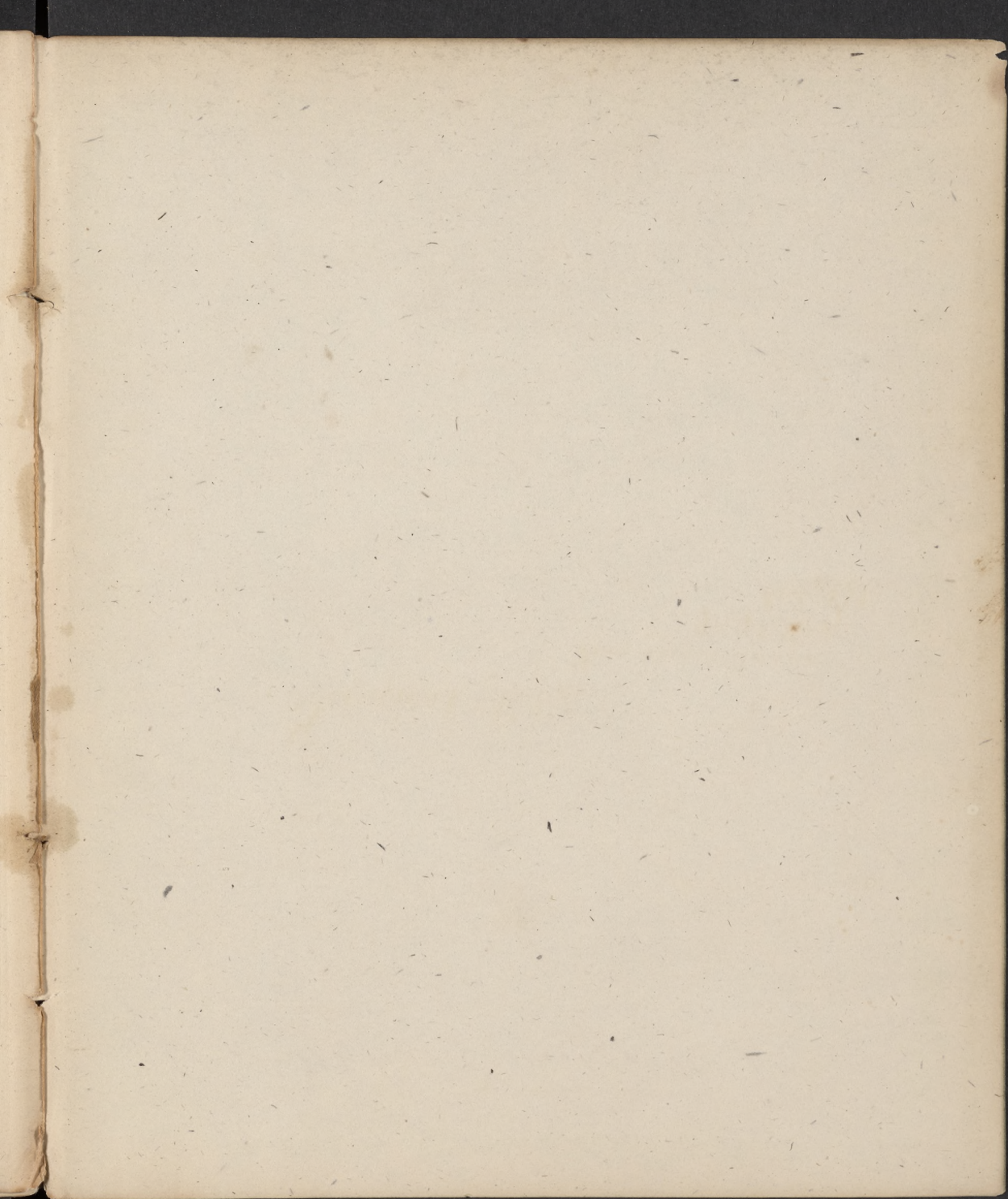
Dr. Nord.

Dr. Gerhard



Surgical Notes.

From various Sources.
April 21st
Dec. 1841.



Titanus generally occurs about the 14th day.

Mr. J. N. Hudson
Dr. Wm. H. Conant

J. M. H. Cartton.

